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Regional News 01/04/10

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LR Press Release 01/08/10

**Protest Hearings on Water for Nuclear Reactor to be Held January 12 in Green River, Utah**

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FOR IMMEDIATE RELEASE

January 7, 2010

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Protest Hearings on Water for Nuclear Reactor to be Held January 12 in Green River, Utah

On January 12, 2010, the Utah Division of Water Rights will hold hearings on the protests of the withdrawal of water from the Green River for a proposed nuclear power plant a few miles west of the City of Green River, Utah. The hearings start at 9:00 a.m. at the John Wesley Powell Museum, 1765 East Main, Green River, Utah.

Living Rivers (LR) and Uranium Watch (UW), along with individuals, organizations, and government representatives will participate in the hearings as parties. The parties include the Grand County Council, U.S. Fish and Wildlife Service (USFWS), Green River ranchers and farmers and a river recreation company, Grand County citizens, Red Rock Forests, HEAL Utah, Center for Biological Diversity, the Uintah Water Conservancy District, Utah Rivers Council, and the Sierra Club.

The hearings will consider the applications by the Kane County and San Juan County Water Conservancy Districts to change the use, place of use, and points of diversion for 53,600 acre feet of water (about 47 million gallons per day) for the reactor planned by

Blue Castle Holdings, Inc. (formerly Transition Power Development LLC). Blue Castle Holdings Inc. (BCH) intends to site the reactor on Utah School and Institutional Trust Lands Administration land that has been leased to Emery County for an industrial park. Although BCH news releases (www.bluecastleproject.com) state that BCH owns the proposed site, BCH has not purchased the land.

The requirements for approval of an application for a new appropriation or a change are found at Utah Code 73-3-8:

http://le.utah.gov/~code/TITLE73/htm/73_03_000800.htm

According to Section 73-3-8, it shall be the duty of the state engineer to approve an application if: • There is unappropriated water in the proposed source. • The proposed use will not impair existing rights. • The proposed use will not interfere with the more beneficial use of the water. • The proposed plan is physically feasible. • The proposed plan is economically feasible. • The proposed plan will not be detrimental to the public welfare. • The applicant has the financial ability to complete the proposed works. • The application was filed in good faith and not for purposes of speculation or monopoly. • The appropriation will not unreasonably affect public recreation. • The appropriation will not unreasonably affect the natural stream environment.

BCH seeks to accumulate assets, including rights to water in the Green River, in order to develop a "shovel ready" site. There is no information available about who would construct and operate the reactor, where the billions of dollars necessary for such a project would come from, who would purchase the electricity, who would use the electricity, or how, exactly, this very complex project would come together.

Sarah Fields of Uranium Watch says, "This is clearly a speculative venture, which is not permitted when water is appropriated for use in Utah."

There are serious questions about whether the proposed plan is physically and economically feasible. The applicant is supposed to have the financial ability to complete the proposed works; but at this time, the entity that would build and run the proposed reactor is not known. For some reason the DWR has not requested additional information, nor initiated a study of the impacts of the withdrawal of the water to supply the operational and safety related needs of the reactor.

The use of the water would impair existing rights on the Green River, impact public recreation, and damage the natural stream environment. In a time of increasing water scarcity, the availability of water and negative impacts to the endangered and threatened fish species are primary considerations. The USFWS, Center for Biological Diversity, Western Resource Advocates and others are concerned that reducing water quantity and water quality in the Green River will significantly diminish habitat for endangered species and cause three threatened species to be listed as endangered. WRA is a member of the Upper Colorado River Endangered Fish Recovery Program. The program is a collaborative effort with members from four states, federal agencies, and representatives from water users and conservation groups. WRA has requested that the DWR deny the applications or postpone any decision until DWR develops

modeling related to the impacts of the potential depletions on Recovery Flows for endangered and threatened fish in the Upper Colorado River Basin.

John Weisheit of Living Rivers, says, "The Colorado River basin has no water to give anymore. Climate change has already depleted the streamflow of the Colorado River from 15 to 14.1 million acre-feet, and by mid-century streamflow may be a mere 12 million acre-feet."

UW and LR are concerned about the lack of data and information in the applications. The DWR and the public have not been given any of the financial and environmental information that is necessary for the State Engineer to make informed decisions regarding the significant regional impacts of this proposal.

More information: http://www.uraniumwatch.org/bluecastle.htm

To read the latest document on climate change and the Colorado River, please visit these sites:

http://wwa.colorado.edu/current_projects/CO_River/rcn_strmflw_corvr.html

Hydrology and climate journals

http://www.onthecolorado.com/resources.cfm?mode=section&id=Hydrology%20I

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Regional News 01/19/10

**Water experts cautious on CAP**

Tony Davis Arizona Daily Star
Tuesday, January 19, 2010 12:00 am
Linked here

Arizona could face its first Central Arizona Project shortage in 2012, CAP officials said two weeks ago, if this year's Colorado River flows into Lake Powell are as low as forecast - 78 percent of normal - and if next year's river flows are also low.

The shortage would take away less than one-fifth of the CAP's supply, and wouldn't affect cities such as Tucson except for water that the city now sinks into basins for recharge. Full-fledged municipal CAP shortages aren't forecast until 2025.

The Star interviewed six water experts about how people and governments in Arizona are likely to respond to the threat of a shortage:

1. Chris Avery, chief water counsel, city of Tucson: "It will not cause any major changes at the city level. A shortage was much more likely in spring 2006 when Lake Powell was at 33 percent full. We've been trying to make sure that our Colorado River allocation is protected from shortage, so when a shortage hits municipal and industrial users, at that point we are hoping we have enough water stored in the ground in our active

management area to have a backup available. ... We've been concerned about a shortage for a long time. Nobody has been asleep on the wheel on Colorado River issues." 2. Bruce Gungle, Tucson environmentalist, member of city/county Water and Wastewater Study Oversight Committee and a Pima County planning and zoning commissioner: "The committee felt fairly comfortable with Tucson Water's actions on behalf of the community. ... I think it would be premature to act on more aggressive conservation measures. The steps they are asking at this time, given what we know, are adequate. We need to see how things unfold before further steps are taken."

3. Tom McCann, assistant general manager for operations, planning and engineering for the Central Arizona Project: "I would suspect that the type of shortage that we might face in 2012 would generate some media attention but would be unlikely to have any significant impact on municipal water use. ... The looming threat of shortage was not significant enough to stop the state from forcing the layoff of 47 employees at the Department of Water Resources on Jan. 7, more than 25 percent of the department's entire work force."

4. Herb Guenther, director, Arizona Department of Water Resources: "It's something we've been preparing for for some time. We knew that either because of continued overuse, since the Colorado River was overappropriated, and as the Upper Basin grows into their authorized use ... that the water is not going to be there. Based upon the dendrochronology of the tree rings, there will be extended periods of drought we haven't seen in modern history. A shortage in 2012 would be a reminder of how fragile the system is, and we had better accelerate while we still have the opportunities to do initiatives to augment the system with weather modification and desalination."

5. Val Little, director, Water Conservation Alliance of Southern Arizona: "It's definitely already had an impact. I think there's a cumulative effect. Every time there is a newspaper article or a TV story about water levels or shortages, even though people don't understand the details, like a marketing campaign, it does register. Even before the recession started, we were seeing a steady ratcheting down of water use. We have a way to solve the problem. It is just going to cost a lot of money. When people start seeing the cost of desal (desalination), I think they will quickly turn to saying, 'OK, I will use a lot less.' "

6. Sharon Megdal, director, University of Arizona Water Resources Research Center: "I think it will have a significant impact on peoples' thoughts on water supply - that they understand that shortages are real, not something just talked about. Not long ago, people said, 'We know there will be shortages, but not this soon,' so it's earlier than people expected. I think it's important for people not to become alarmed about the magnitude of the shortage that could occur. We could end up having significant storms that help the runoff. But I think people have to be tuned into the fact that we are the lowest priority on the Colorado River and that has implications for us. People are trying to do something about it and stay ahead of the curve. People need to be vigilant. I think people are."

DID YOU KNOW

The Central Arizona Project is a 336-mile collection of pipelines and canals pumping Colorado River uphill from Lake Havasu, in Western Arizona, south and east to Tucson. Its supply is dependent in part on the storage levels in Lake Powell.

The CAP is expected to run short at times in part because the Colorado River is overallocated among seven states: Arizona, California, Colorado, Nevada, New Mexico, Wyoming and Utah.

If the river does run short, the CAP is last on the priority list for water deliveries from the river, under the 1968 law that authorized the $3.6 billion project's construction.

Contact reporter Tony Davis at 806-7746 or tdavis@azstarnet.com

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Regional News 01/20/10

**Colorado pipeline proposal stirs water fears**

Green River » Entrepreneur would tap flow before it reaches Utah.
By Brandon Loomis for The Salt Lake Tribune

Linked here

Seedskadee National Wildlife Refuge, Wyo. » A big gulp of the little stream that splits these sagebrush prairies might take a $3 billion detour across the Great Divide and into Colorado's bullish future.

It's one former Utah ranch boy's dream to build a 400-mile pipeline to water the booming Denver suburbs, and beyond to Pueblo, with the glacial and snowmelt waters that course through Wyoming's Green River.

In an audacious test of the Western axiom that water flows toward money, Fort Collins, Colo., entrepreneur Aaron Million wants to tap this Colorado River tributary just downstream from here and send it to faucets in neighborhoods that don't yet exist.

"We certainly don't want to impact the Green River," says Million, who spent his youthful summers shoveling mud to open and close flood-irrigation canals to his grandfather's melon farm in Green River, Utah.

His plan worries Utah and Wyoming officials, who don't dispute that Colorado has a legal right to the water under the Colorado River Compact. They never expected their neighbor to take its share from a river that they consider money in their water banks, but rather thought the diversion would come from the Colorado River to the south.

Million wants to sell up to 250,000 acre-feet, or 81 billion gallons, a year. It's enough to supply perhaps a quarter of Colorado's projected new needs if its population doubles to 10 million as predicted by 2050.

He insists it won't harm boating, fishing, four endangered Utah fish or other states' legal rights to Colorado River Basin flows. And here at Seedskadee, he sees no reason why

two downstream diversion pipes -- on the river and in Flaming Gorge Reservoir -- should threaten a delicate and dying cottonwood oasis for eagles, ospreys and moose. Ripple effect » Up and down the watershed, doubters fear all of those resources and rights are at risk. They're flooding the U.S. Army Corps of Engineers with critical or skeptical comments as it reviews Million's pipeline proposal with a federal environmental impact statement.

"That river is so quickly impacted by [changing] water conditions," says Mark Forslund, a Heber City fly-fishing guide who has floated the Green here for a dozen years.

Unlike lower stretches, he says, the upper Green is shallow, with no holes to hide fish. When flows shrink in winter, fish die. In summer, the water gets hot.

These are conditions that steel the monstrous brown trout and make valiant fighters of the rainbows and native cutthroats, he says. Tinkering with flows from the Fontenelle Dam, above the refuge, could doom them.

The Corps of Engineers is reviewing Million's proposal to take water from just 200 yards downstream of the refuge boundary. Million now says he'll consider a diversion downstream in siltier waters below the city of Green River, Wyo.

Moving it lower is better, Seedskadee Refuge Manager Carl Millegan says, but won't fully protect the refuge. Draining the river -- perhaps taking as much as half of its lowest winter flows -- will hinder fish migrations from Flaming Gorge. Kokanee salmon, a major source of nutrients for the refuge's other fish and birds, might not swim up to Fontenelle to spawn and die as they do now, he says.

"I can't see how they'd make it," he says while standing on a cutbank and watching one of the refuge's seven eagle nests on a tree across the ice.

Wherever the pipeline starts, Millegan fears, it could require adjusting Fontenelle Dam's releases and stemming spring floods that scour the riverbanks and help new cottonwoods sprout.

Millegan's view north across the sagebrush finds the ice-capped granite of the Wind River Range, source for both the river and uneasiness about its future. The glaciers there, including seven of the 10 largest in the American Rockies, are shrinking. It's just one reason scientists throughout the Colorado River Basin worry that climate changes will drop water levels well below what the states divvied up on paper with the 1922 compact.

"Whether you believe in climate change or not, every year around here is a struggle" for adequate flows, Millegan says. So far this winter's snowpack in the Winds is about half the historic average.

The glaciers have shrunk by a third or more since 1970, according to Craig Thompson, an associate professor of earth sciences and engineering at Western Wyoming Community College. He and faculty colleague Charlie Love, a geologist, have studied the glaciers since 1985.

The glaciers help maintain year-round flows, Thompson says, because they release meltwater late in the summer and fall, when winter snows are gone. When they disappear, he expects, the year-round supply for Denver or any other big pipe evaporates.

Corralling the river also could degrade municipal supplies here, Thompson says, because lower flows mean higher salinity in this mineral-rich valley. Water into money » All this for private gain?

At current Colorado water prices, Thompson figures the Million Conservation Resource group could make $250 million a year on the water.

"It looks like a project where Million gets to turn millions into billions," he says, "and Wyoming gets to bear the impacts."

Million views his plan more like his great-grandfather might have, back when he built one of the river's earlier irrigation ditches.

"Water in the Western United States was developed privately, initially, by the farm and ranch and mining communities," he says. It wasn't until later that the federal government stepped in, he says. His pipeline is a return to the principle of private capital serving public demand.

"That's how America was built," Million says.

Utah has long expected the Green River would supply its remaining Colorado Basin right of about 400,000 acre-feet, Assistant State Engineer Matt Lindon said. Million's pipeline is a threat.

"That's less water that Utah has to deal with," Lindon says, noting the state already must let half of the river's water drift on to entitled states downstream.

The U.S. Bureau of Reclamation, which manages the river's reservoirs and dams, has told Million and the Corps of Engineers that there's not 250,000 acre-feet a year to spare in Flaming Gorge.

After reserving Wyoming's and Utah's remaining undeveloped water rights and providing mandated minimum flows for endangered pikeminnows, humpback chubs, bonytails and suckers, the agency has estimated the reservoir has 165,000 acre-feet to spare.

Government hydrologists are running new models to double-check that estimate, said Beverley Heffernan, environmental chief for the bureau's Provo office.

"We really think that that number is pretty close to the ballpark," she says. Penciling out » Million is unfazed.

He can build the pipeline with up to $3 billion in private financing, he says, if he gets 140,000 acre-feet or more. Despite the loud and broad criticism -- including condemnation by the Green River and Laramie city councils in Wyoming -- Million

believes the project is on course. After all, he notes, Colorado has an absolute right to the water.

"We have found no fatal flaws," he says.

Million must show who will buy his water before the environmental review continues. His deadline to produce a list of users to the Corps of Engineers is today. He says he has that list ready, but critics wonder why anyone would sign on without a firm supply and rates in place.

To get a permit to alter wetlands, Million also will have to prove his plan jibes with the Clean Water Act. That means the corps must determine it's the least damaging plan that can reasonably meet the need. The corps is investigating that question, project manager Rena Brand says, and whether in fact Front Range growth is likely to require so much water.

University of Arizona law professor Robert Glennon sees many obstacles in Million's way, "not the least of which is the Rocky Mountains." Farmers and small towns in western Colorado won't want the Front Range to soak up all of Colorado's rights. Further political complications come from Front Range citizens and water districts who "won't want Aaron Million to hold all of the cards."

Glennon's 2008 book, Unquenchable: America's Water Crisis and What To Do About It , groups Million with a host of grand-scheming "water alchemists" who, he writes, "gaze at the Mississippi River, the Columbia River, icebergs in Alaska, and rivers in British Columbia and wistfully imagine the problem is solved."

Still, he says, if Million secures real municipal and agricultural customers, the interstate compact's so-called "law of the river" is with him.

"Sometimes," Glennon says, "dreamers pull off their dreams."

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Colorado River Compact - annual water rights by 7 states and Mexico:

» Mexico, 1.5 million acre-feet

» California, 4.4 million acre-feet

» Arizona, 2.85 million acre-feet

» Nevada, 300 acre-feet

» Colorado, 3.9 million acre-feet*

» Utah, 1.7 million acre-feet*

» Wyoming, 1 million acre-feet*

» New Mexico, 850,000 acre-feet*

* = The amounts of water for the 4 states of the Upper Basin, which are estimates based on an annual percentage of shares for 7.5 million acre-feet, which nature has yet to produce. As of 2007, the upper basin annual average yield is presumed to be only 5.75 million acre-feet. Since Year 2000, this amount has decreased to about 5 million acre-feet.

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Regional News 01/24/10

**Green River nuclear power proposal sparks big questions**

State water engineer must determine if plan is economically feasible.
By Christopher Smart
The Salt Lake Tribune
Salt Lake Tribune
Updated:01/24/2010 05:22:56 PM MST

A fledgling company's plan to build a 3,000 megawatt nuclear power plant near the Green River in eastern Utah is generating more questions than answers. What would happen to the spent nuclear fuel from the two-reactor plant proposed by Utah-based Blue Castle Holdings?

If the Utah Division of Water Rights deems there is enough water in the Green River for the plan, what happens to 50,000 acre feet of water required each year to cool it?

Who would get the electricity generated by the plant? And last, but not least, is the proposal economically feasible, or would it require federal loan guarantees and tax incentives? And are those means available?

Spent fuel » The spent fuel rods would remain at the proposed site, which is about 5 miles northwest of the small Emery County town that takes its name from the river that runs through it.

Should the Green River plant be built -- a fast-track scenario would put it online in 2020, although historically such projects have taken longer -- spent radioactive rods would be stored in dry casks on a 1.5-acre pad at the plant, said Blue Castle CEO Aaron Tilton.

Although the federal government has struggled for decades to establish a storage site at Yucca Mountain, Nev., it is questionable whether the controversial facility will ever open. The casks could be safely stored at the Green River plant for 100 years, say Blue Castle officials.

The waster's fate » Unlike some nuclear reactors, all the water that would be used annually by the plant -- equal to the capacity of East Canyon Reservoir -- would be given off as steam after cooling the nuclear reactor.

It's unknown as this point which of five reactor designs certified by the federal Nuclear Regulatory Commission would be built by Blue Castle. Some of those designs return heated water to its source.

John Flitton, an attorney representing HEAL Utah, an environmental organization protesting the state water application, argues that 50,000 acre feet is a significant amount for arid Utah and not the best of use of a resource that already may be over-allocated.

Flitton is among dozens of individuals and organizations, including the U.S. Fish and Wildlife Service and the federal Bureau of Reclamation, that are protesting the proposed water diversion.

During 2002, the Green River's second-driest year on record, the proposed 50,000 acre feet would have been equivalent to 10 percent of the river's total flow. But in an average year, the volume required for the plant would be less than 2 percent of the river's water. (An acre foot --- 365,000 gallons -- is enough to supply two typical households for one year.)

During dry years, there may not be enough Green River water to go around, Flitton said. "For water users up and down the Green River, it's not a pretty picture."

But Blue Castle officials counter that 2002 was a "once-in-100-years" occurrence and a planned 2,000-acre foot reservoir on site would mitigate such shortfalls. The planned lifetime of the reactors is 40 to 60 years, after which they would be dismantled.

Construction of the plant depends, at least initially, on whether the Utah Division of Water Rights approves diversion applications by Kane and San Juan counties, which have agreed to lease water to Blue Castle.

"It's one of the very most complicated applications the state engineer will ever work on," said John Mann, assistant state water engineer.

Paying for the plant » The decision hinges on criteria beyond how much of the Green River is already allocated for other water rights or potential environmental impacts. Among them, according to Utah law, is whether the project is economically feasible.

That goes to potential investors and where the electricity would be sold. Presently, Tilton concedes, none of the plant's $16 billion to $20 billion construction cost is in hand. Rather, Blue Castle plans to secure the Green River water, then obtain a license from the NRC before it begins to raise money to build the plant.

Nils Diaz, a former chairman of the NRC and a minor stake holder in Blue Castle, said the "step-by-step process" is necessary to reduce financial risk for investors. "No major financial commitments will be made without a [NRC] license."

The issue if further complicated, however, by the fact that Utah law disallows water diversions "for purposes of speculation." That means the state water engineer must

determine whether Blue Castle's multi-faceted, 10- to 20-year business plan makes financial sense in a growing and shifting energy market.

"Some of this stuff is on the subjective side," Mann conceded.

But Jerry Olds, a former state water engineer who is now a consultant for Blue Castle, said the Division of Water Rights does not have to prove beyond a reasonable doubt that the nuclear plant is financially viable.

But rather, "Is it reasonable to believe the applicants have the ability to move the project forward?" Blue Castle officials are optimistic, according to Diaz, because nuclear power plants "are big money makers" and a streamlined NRC licensing process makes them more advantageous for investors.

Supply and demand » The West will be in need of new power sources in the coming decades, Blue Castle officials say. They plan to sell up to 50 percent of the electricity in Utah.

Nuclear power will be at the forefront of the nation's power base, they say, because it doesn't put CO2 into the atmosphere, like coal-fired plants.

Nonetheless, Diaz conceded that the upfront capital cost has to be overcome.

Those construction costs could keep Blue Castle from becoming a reality, said Christopher Paine, nuclear program director at the National Resources Defense Council. Like other nuclear power projects, the huge expense and risks mean banks and other private investors likely won't buy in. That leaves taxpayers to underwrite the plant in federal loan guarantees.

Selling electricity in the West is competitive, Paine noted, because there are many sources, including hydro power.

And the future will include power from wind, solar and geothermal plants.

"It sounds like a high-risk project if they're counting on [electricity] sales in a competitive market," he said of the Blue Castle project. "If federal loan guarantees are not available, it's going nowhere."

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OpEd 01/25/10

**Big Gulp**

Forget the Green River pipeline
Tribune Editorial
Salt Lake Tribune
Updated:01/25/2010 05:28:32 PM MST

Linked here

A guy named Million wants to spend billions to pipe part of Wyoming's Green River 400 miles to Denver and beyond. But as global warming threatens the flows in the Green, it would be foolhardy to suck great gulps of water from the stream. To sustain both wildlife and humans, the waters should be left alone.

Aaron Million's idea is to pull up to 250,000 acre-feet of water annually from the Green at two points. One would be Flaming Gorge reservoir, the other would be a point upstream, perhaps just below the Seedskadee National Wildlife Refuge in Wyoming or maybe closer to the town of Green River (Wyoming, not Utah). He would develop the water with $3 billion in private funds, then sell it to thirsty Coloradans in the suburbs of Denver and points south. Many of these folks may not live there now, but the population of Colorado is projected to double to 10 million by 2050, so Million is sure the water will be needed. It's a variation on "if you build it, they will come."

Colorado is entitled to develop the water within its allocation under the Colorado River Compact of 1922 and succeeding laws of the river.

It's a scheme worthy of William Mulholland, the engineer who ravaged Southern California water resources for the City of Los Angeles early in the 20th century. But today such thinking is outdated, or at least it should be. One reason is that everyone has seen the environmental devastation in the Owens Valley and elsewhere created by Mulholland's projects and others like it.

The Green is fed by the snows and glaciers of the Wind River range, but those glaciers are shrinking. When they're gone, the winter flows of the river will fall, placing greater pressure on the fish, birds and other wildlife that rely on the river and on the humans who use it, including folks from Green River, Wyo., to Green River, Utah, and farther south to Las Vegas and Los Angeles.

The Colorado River Compact allocates the water in the river, and while it is true that portions of Utah's and Colorado's allocations remain undeveloped, it is doubtful that they should be. The reason is that the compact allocations were based on a historically wet cycle in the river, and it is improbable that the river can supply all of the water that has been allocated, particularly in light of climate change.

So the more sensible thing to do is for the people of the West to better adapt to their arid environment and use less water.

Developing ways to pipe water that probably won't be there in the future just doesn't make sense.

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Regional News 02/11/10

**Arizona quits Western climate endeavor**

by Shaun McKinnon - Feb. 11, 2010 12:00 AM
The Arizona Republic

Arizona will no longer participate in a groundbreaking attempt to limit greenhouse-gas emissions across the West, a change in policy by Gov. Jan Brewer that will include a review of all the state's efforts to combat climate change.

Brewer stopped short of pulling Arizona out of the multistate coalition that plans to regulate greenhouse gases starting in 2012. But she made it clear in an executive order that Arizona will not endorse the emission-control plan or any program that could raise costs for consumers and businesses.

State officials said the policy shift was rooted in concerns that the controversial emissions plan would slow the state's economic recovery. Brewer says the state should focus less on regulations and more on renewable energy and investments by businesses that can create green jobs.

The governor also ordered the Arizona Department of Environmental Quality to take another look at stricter vehicle-emissions rules set to take effect in 2012. Automakers said the rules, based on those adopted by California, would raise the cost of a new car significantly.

The governor's order is another blow to the Western Climate Initiative, a group of seven states and four Canadian provinces that joined forces in 2007 after growing impatient with the federal government to address climate change.

The coalition agreed to implement a regional "cap and trade" system, which limits how much pollution companies can emit, then allows them to buy and sell pollution credits.

Supporters say the system lets the marketplace make polluting more costly, encouraging emitters - factories, power plants and others - to clean up more quickly. So far, California is the only U.S. state in the Western coalition prepared to start the program on schedule in January 2012. The recession and political opposition has slowed legislation to implement the rules in other states.

The Western group is one of several state-led coalitions formed to regulate greenhouse gases. A group of Northeastern states is in the second year of its cap-and-trade system, one that only regulates electric utilities.

A federal plan has stalled in the Senate and is unlikely to move anytime soon. Arizona's chief environmental regulator said Brewer's order, which was signed last week without fanfare, should be seen as a step forward in Arizona's attempts to foster renewable energy and green jobs.

"Arizona needs a green-and-grow approach rather than a cap-and-trade approach," ADEQ Director Benjamin Grumbles said. "We can make environmental and economic progress, and we can do it by staying engaged and creating green-job opportunities."

Brewer ordered the state to continue converting its vehicle fleet so that by January 2012, all vehicles used by the state are hybrids, meet low greenhouse-gas emission standards or use some form of alternative fuel.

The governor also said Arizona can remain active with the Western coalition by exploring policies related to solar power and other renewable energy sources, growth policies that limit pollution or steps to adapt to the changing climate.

"It's very important for the state to stay engaged, to be at the table, but it's also important to convey clearly our position on how to make progress," Grumbles said.

"Right now, given the economic downturn, given the complexity of the cap-and-trade scheme being developed, we're not going to be supportive of it."

Arizona joined the effort under its previous governor, Janet Napolitano. The states involved agreed to the cap-and-trade idea, but each would have to implement the rules at its own state level.

Brewer said legislative approval would be required for Arizona to participate in the regional cap-and-trade plan. The Legislature has attempted several times to dismantle the state's climate-change programs and forbid its participation in the cap-and-trade system. Leaders said Wednesday that lawmakers are unlikely to reconsider their positions.

"I do not believe they would," said Sen. Carolyn Allen, R-Scottsdale, a member of the Senate's Natural Resources, Infrastructure and Public Debt Committee. "But this Legislature is full of surprises."

Environmental groups expressed disappointment at Brewer's decision. Arizona had been a founding member of the Western climate group and had signed on to the cap-and-trade blueprint released in September 2008.

"I think it's embarrassing for the state of Arizona," said Sandy Bahr of the Sierra Club in Phoenix. "It demonstrates a real lack of understanding of how significant of a threat climate change is to the state. We ought to be standing at the front of the line to look at solutions."

Diane Brown, executive director of the advocacy group Arizona PIRG, said Arizona doesn't have to abandon other policies that could help reduce global-warming emissions, such as efforts to increase energy efficiency and reduce vehicle pollution.

"It is important for Arizona to remain at the table with colleagues in other Western states," she said. "A number of policies can still take place to reduce global-warming emissions and, in a state with increasing population, it's particularly important to get ahold of the situation."

Republic reporter Casey Newton contributed to this article.

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Regional News 02/21/10

**Abatti OK with no Quantification Settlement Agreement**

By DAVID STEFFEN, Staff Writer
Imperial Valley Press Online
Linked here

Saturday, February 20, 2010 11:52 PM PST

Imperial Irrigation District Director Michael Abatti said he believes the Quantification Settlement Agreement drains district water at the benefit of the coastal cities.

He said he has no objections to Superior Court Judge Roland Candee's recent ruling that invalidates the QSA.

"If they want to call off the QSA, that's fine," Abatti said. "It should be less water, more money and for a shorter period of time."

Water users on the coast should and would accept higher water rates under any new water transfer, he said. He said desalination is another option at $700 per acre-foot of water.

"They pay $3 a gallon for gasoline, and they haven't stopped paying for that," he said.

Abatti said those who crafted the QSA would not be well-suited to prepare any future water transfers.

"They can't fix the problems with the same minds that created them," he said.

Abatti said the Imperial Valley needs to protect the water that it first began using when it brought water from the Colorado River to the Valley.

"We are kings on the river on our priorities and privileged rights with the law of the river," Abatti said in reference to the Imperial Valley. "We should respect those rights that were developed and fought for by our past generations and forefathers and defend those as my oath requires me to."

The Valley's claim to Colorado River water is the basis of his statement about "the kings of the river," he said.

"I consider ourselves the kings of the river because we have the biggest entitlement in California," he said.

Abatti said a lack of urban planning on the coast led the water agencies there to need more water and they should not impose on the Valley for it.

“The other parties brought this thing into the Valley with demands,” Abatti said about the 2003 QSA signing. “It was their lack of planning that resulted in a crisis of ours.”

Abatti also said he did not think the federal government would take over IID. He said he doubted the federal government would take over IID’s water rights, either.

“I don’t know if they could, as long as we’re beneficially using it, which we’ve been doing for the past 100 years,” Abatti said.

Demands were made in 2003 before the QSA was signed, Abatti said, and he cited documents from members of Congress about the matter. He said the big cities have been demanding the water.

“They’re demanding we give them resources to make them a better place, but at the same time we need to continue to grow and be a better place for it,” he said.

Among the positive uses of water would be renewable energy in the Valley, he said.

“Geothermal, solar — these need to be developed,” he said. “We’re a hotspot. It’s going to be good for the Imperial Valley’s economy and for the state and the West to meet their required mandates for renewable efforts.”

The QSA, while serving a beneficial purpose for the coastal cities, infringes on the Valley’s water rights, Abatti said.

“The QSA is a good deal for everyone outside Imperial County lines, but it’s a bad deal for everybody inside Imperial County lines,” he said.

>> Staff Writer David Steffen can be reached at 760-337-3452 or dsteffen@ivpressonline.com

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Regional News 03/15/10

**Research: Water imports no shield against drought**

The fates of the Colorado, Arkansas river basins are intertwined, researchers find.
Linked here
By CHRIS WOODKA
THE PUEBLO CHIEFTAIN

Simply bringing water from the Colorado River to the Arkansas River basin in Colorado does not improve protection against drought.

The surprising finding was shared last week at the Arkansas Basin Roundtable by climate researchers from Western Water Assessment, a hybrid agency that combines Nation Oceanic and Atmospheric Administration and University of Colorado resources.

Western Water is studying future water projections for the Colorado Water Conservation Board.

“It has always been thought that if you are bringing in water from both sides of the Continental Divide, you have protection. That is not the case,” said Jeff Lukas, of Western Water. “While they vary from year to year, the dry years and wet years in both basins show a strong correlation.”

The two driest years on record in both basins were 1977 and 2002, and the record of imports into the Arkansas River basin bears out Lukas’ depiction of drought protection — or the lack of it. Other than 1987, when little water was brought over in the Fryingpan-Arkansas Project simply because there was no place to put it, 1977 and 2002 produced the least imported water for the Arkansas Valley. In other words, there wasn’t much water available on the other side of the mountains either.

In 1977, the Fry-Ark Project was just getting ramped up, and Lake Pueblo was still filling. Imports, however, dropped to just 11,400 acre-feet, or less than one-third of the typical year at the time because 1977 was the driest on record for the Western Slope.

In 2002, Fry-Ark flows through Boustead Tunnel totalled just 13,200 acre-feet, or about one-fourth of the long-term average. Basinwide, in 2002, imports totalled just half of the long-term average at 67,224 acre-feet, with projects like Twin Lakes, Homestake and Board of Water Works diversions pulling in every drop available.

The year 2002 was the driest on record for the Arkansas River basin, and second-driest on the Colorado River.

“We only have 104 years of data, but we can look at tree rings and see what happened in the past,” Lukas said.

The news doesn’t get any better when peering at those tree rings.

Scientists are able to correlate the width of bands in tree rings to climate conditions with some certainty, based on comparing the data gleaned from them to observed weather conditions in modern times.

The correlation is strongest, dead-on actually, for dry years.

In the past 500 years, the period of record for tree rings in both basins, there have been about eight annual droughts as severe as 1977 and 2002. All show both basins were equally affected.

“They’re showing the same extreme low-flow years,” Lukas said.

More ominous are long-term drought periods in Colorado, some lasting up to 60 years.

In the Arkansas River basin, the longest period of prolonged drought in recorded years was from the 1950s through the ’70s. While there were wet years and even drier years in the 1930s, the average was far below normal. By comparison, the 1980s and ’90s

were the wettest years since the 1910s and ’20s, and the past decade has been relatively average.

The Colorado River basin as a whole — it stretches over seven states — saw its lowest recorded flow period in a century in the first decade of this century. However, its performance in Colorado has essentially mirrored the Arkansas River basin. While there is much more water available every year in the Colorado River basin, its wet and dry years come at the same time as the Arkansas River basin.

The tree-ring data show that has been true for 500 years. Worse than that, the recorded history of the basins has not produced a prolonged dry period like those seen in the past, Lukas said.

“From the past record, in the next 100 years, we should anticipate droughts of more severity,” Lukas said.

The trends observed by climate watchers are more than just scholarly pursuits. They have played a prominent place in real-world water decisions.

The Pueblo water board last year bought 27 percent of the shares on the Bessemer Ditch to reduce its reliance on transmountain water.

The water within the Arkansas River basin would not be subject to the same pressures as imports. California, Arizona and Nevada rely on Colorado River flows both for population and producing electricity, and Colorado water providers on the Front Range fear a call on the river.

Front Range water users have invested in studies aimed at projecting long-term climate trends to incorporate in their ongoing planning.

Entrepreneur Aaron Million has argued that the Upper Green River basin in Wyoming would provide a different climate cycle for Colorado to tap into in making the case for his proposed Flaming Gorge pipeline.

There is a large deal of uncertainty over future climate.

Nearly all climate models agree Colorado is headed into a warmer period in the next 50 years, a rise in average temperature of 4 degrees Fahrenheit, that will at least increase water demand.

The models cannot agree on the trend for precipitation — tracking them on a graph looks like a mess of multicolored spaghetti — because Colorado is located 1,000 miles from its primary water source, the Pacific Ocean, said Joe Barsugli, Lukas’ colleague at Western Water.

Slight changes in the weather could mean big impacts on water, he added.

Overall, about 10 million acre-feet of water flow out of Colorado every year, while human diversions total about 5 million acre-feet.

In terms of precipitation, that equates to a total of 3 inches over the state's entire area. The average precipitation on the Eastern plains and foothills is between 14 and 20 inches, and twice that in the mountains. The rest of the water soaks into the ground, evaporates or is used by natural vegetation, Barsugli explained.

Barsugli showed worldwide models that indicated the past winter has been colder in nearly all of the United States, but warmer in almost every other part of the world. The past 40 years, globally, have been among the warmest on record and, yes, greenhouses gases are really increasing at alarming rates — whatever the cause.

Long-term warming will affect the quantity and quality of water that is available in Colorado, regardless of precipitation variability, he added.

"Climate change is much more variable in the local areas," Barsugli said, adding that a new assessment that will be published in the next few months is among the first to look at the Arkansas River basin. "You have to look at the bigger picture, but there is not one correct climate model. It's important to compare the models."

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LR in the News 04/09/10

**Utah's first N-plant won't float without water rights**

By Rachel Waldholz
Salt Lake Tribune

The former uranium boomtown of Green River sits along I-70 in eastern Utah, 100 miles from the closest city. Now it may become the Western outpost of America's nascent nuclear renaissance. Blue Castle Holdings, a three-year-old, politically connected startup, wants to build a nuclear power plant there -- Utah's first, and the first in the West since 1987.

Nuclear power has recently gained cachet -- and the backing of the Obama administration -- for its potential to help avert climate change. Nuclear generation emits a fraction of the greenhouse gases of coal or natural gas generation, and provides a steadier energy supply, at a larger scale, than solar or wind arrays. In January, President Obama made nuclear power the center of his "clean energy" agenda in his State of the Union speech. Two days later, he announced a commission to study nuclear waste solutions, and proposed tripling federal loan guarantees for new plants to $54 billion.

The Green River proposal has sparked intense skepticism. Critics ask where the funding will come from, where the electricity will go, and, of course, what will happen to the waste. But the first hurdle is more immediate. In the Utah desert, this possible climate change solution is colliding with one of its projected consequences: water scarcity.

Blue Castle needs some 50,000 acre-feet annually -- enough water to supply up to 100,000 homes -- to cool the reactors of its proposed 3,000-megawatt plant, which would produce enough electricity to power nearly 3 million households. In 2007, the company struck a deal to lease 53,600 acre-feet from Utah's San Juan and Kane counties, which are about 150 miles south of the proposed reactor site. Blue Castle has applied to move the counties' diversion points upstream, onto the Green River, from their current locations on the San Juan River and Lake Powell. Aaron Tilton, Blue Castle's CEO and a former Utah state legislator, believes the Green, the Colorado's major tributary, has enough water for the project; in an average year, he says, the plant would lower the river by less than 2 inches.

But the plan has drawn protests from local farm, health and recreation interests, environmental groups, the U.S. Fish and Wildlife Service and the Bureau of Reclamation. "Our main concern is that the water really isn't there," says John Weisheit, conservation director of the nonprofit Living Rivers in Moab. A 2009 study by the National Oceanic and Atmospheric Administration cites estimates that over the next 50 years, the Colorado River system could lose between 6 and 20 percent of its total volume to climate change-induced drought. Fish and Wildlife, the BOR and the Utah Division of Water Resources want the state engineer to wait for the results of several studies on future water levels in the Green River and across the Colorado Basin before allocating any more rights.

If more water is taken from the river, the agencies may not be able to keep stream flow high enough to protect several species of rare and endangered fish, says Wayne Pullan of Reclamation's Provo office.

And if the Green River drops, Blue Castle would have early rights to what remains: While San Juan's rights are junior (2001), Kane County has 1964 rights to 29,600 acre-feet. That places it ahead of many rights holders, including Reclamation's Central Utah Project, which supplies water to much of the Wasatch Front. Pullan says that in a drought, calls from such senior rights could short the project's users, including Salt Lake City.

This is part of a much larger tangle. If Utah develops just 360,000 more acre-feet of Colorado Basin water, it will hit its limit (1.4 million acre-feet) under the Colorado River Compact. But it has handed out paper rights to an additional 1.1 million acre-feet. All those rights holders, like Kane County, still have the right to develop. But Utah will have no excess water to supply them, and so water will be rationed by priority date across the state. In that context, Blue Castle's request is nothing to sniff at. It's a seventh of the water Utah has left.

At times, the Blue Castle proposal looks like a water right in search of a project. Kane County has five more years to prove it is putting its water rights to "beneficial use," or risk forfeiting them, according to Mike Noel, executive director of the Kane County Water Conservancy District. By leasing the water to Blue Castle, the county hopes to meet its deadline -- and earn $1 million a year once the reactors are constructed. (San Juan County would earn $800,000 annually.) Noel, a Utah state representative from

Kanab, is the project's unofficial godfather. He was hunting for a use for Kane County's water while serving on the same committee with then-Rep. Tilton.

Even if Blue Castle does get its water rights, though, it's unclear whether the project will ever materialize.

Nuclear power plants require immense up-front funding: at least $100 million for the Nuclear Regulatory Commission's application process, which could take five to seven years or longer. Estimates for the cost of building the reactors range between $7 billion and $15 billion.

And there is the never-ending question of what to do with the high-level nuclear waste -- especially since the Obama administration has essentially pulled the plug on the Yucca Mountain repository.

This story originally ran in the March 1, 2010 issue of High Country News (hcn.org).

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Regional News 04/15/10

**Below-average runoff predicted for Farmington (San Juan RIver)**

By Steve Lynn The Daily Times
Posted: 04/15/2010 12:00:00 AM MDT
Link

FARMINGTON — Below average snowpack in southwest Colorado's San Juan Mountains means less spring runoff for northwest New Mexico rivers, according to the National Weather Service.

Snowpack in the San Juans recently has fallen below average for this time of year, said Bryon Lawrence, service hydrologist for the National Weather Service in Grand Junction, Colo.

The amount of water contained in snow-pack around southwest Colorado rivers, including the San Juan and Animas rivers, has fallen to about 88 percent of average.

The weather service predicts the San Juan River will flow at 70 to 90 percent of its normal volume during the runoff period from April through July, Lawrence said.

In Farmington, the Animas River is expected to run at 3,600 cubic feet per second during the height of the spring runoff period sometime between Memorial Day weekend and mid-June. The volume of the river normally peaks at 4,900 cubic feet per second.

By contrast, Lawrence said last year's peak flow in the Animas River was measured at 5,170 cubic feet per second May 13.

"If we get a really long period of warm weather combined with rain and high freezing levels and high snow levels, then snow is going to melt quicker and we're going to be getting more water through the rivers, and peak flows are going to be higher," he said.

He added that recent storms that have coated the snow on peaks with dirt could hasten snow-melt. The dirt will help the snow absorb heat from the sun; snow normally reflects sun rays.

However, not as much dirt has settled in the high country this year versus last year, he said. The soil in northeastern Arizona and southeastern Utah has retained moisture. The weather service believes those regions are the source of the dirt.

Northwest New Mexico received about 150 percent of average precipitation this winter enhanced by a strong El Niño weather pattern, said Todd Shoemake, a meteorologist for the National Weather Service in Albuquerque.

"We haven't really seen the runoff process really start to kick off in full swing just yet," Shoemake said.

He explained that temperatures were below normal in March and only in the last couple weeks has the region seen higher temperatures.

"As far as the timing of the onset of the spring melt, it's probably running a little bit behind where it normally would," he said. "We haven't really seen much of an up-tick in any of our river gauges."

The amount of runoff affects the city of Farmington's water supply, said Jeff Smaka, the city's Public Works department director.

The city pumps water April through October from the Animas River into Farmington Lake.

Steve Lynn: slynn@daily-times.com

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Regional News 04/19/10

**Iconic Status Can't Spare Grand Canyon From Myriad Threats**

Greenwire article in New York Times
April 19, 2010
April Reese
Linked here

PDF archived here

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OpEd 04/20/10

**Colorado River water policy faces an age of limits**

By Dan McCool
Salt Lake Tribune

Change comes hard to Western water policy. The Prior Appropriation Doctrine, interstate compacts, groundwater law, the "law of the river" -- all of these seem set in stone in the minds of the region's policymakers.

Of course, the West's rivers aren't bound by such a static existence. Indeed, they are changing in fundamental ways, opening a wide chasm between our water policy and our water sources. This is particularly true for the Colorado River Basin.

Climate scientists are predicting a 10-to-30 percent reduction in flow for the Colorado -- a stark contrast to the rosy assumptions that underlay the Colorado River Compact when it was signed 88 years ago. Researchers from the Scripps Institution of Oceanography recently predicted that Lake Mead and Lake Powell have a 50 percent chance of going dry by 2021. These days, Lake Mead is at 45 percent capacity and Lake Powell is at 57 percent.

Farther south, water shortages are predicted for northern Arizona communities, including Flagstaff, by 2050. The Central Arizona Project, which provides water to Phoenix and Tucson, may run short of water as early as 2012.

And farther downstream, Mexico is looking at a disaster along its stretch of the river due to inadequate flows, prompting one Mexican official to declare, "We are clearly on a collision course with a catastrophe," according to The Los Angeles Times.

Then there are the numerous environmental problems in the basin. Six aquatic species are threatened or endangered, though the invasive quagga mussels are doing just fine. The river corridor in the Grand Canyon, deprived of sediment and choked with tamarisk, is dying; the river's delta is already on its deathbed. The Colorado is plagued by water quality problems, especially salinity, perchlorate rocket fuel, runoff from agriculture and inadequate sewage treatment.

The shortage of surface water has pushed some communities to mine groundwater. Communities as diverse as Tucson, Las Vegas and Cedar City are experiencing subsidence because of their excessive withdrawals of groundwater.

The sediment that once was the lifeblood of the river now forms a giant plug at the junction of Cataract Canyon and Glen Canyon. It is simply a matter of time before Lake Powell becomes the world's largest mud catchment, rendering the 710-foot-tall dam useless.

Water shortages in the Lower Basin will be greatly exacerbated by proposals to build giant pipelines. Las Vegas, which gets 90 percent of its water from Lake Mead, wants to

build a $4 billion pipeline to central Nevada to pump groundwater from beneath several valleys in the Great Basin. This 300-mile pipeline is likely to lower groundwater levels, threatening a national park, national wildlife refuges, an Indian reservation, and local ranchers and farmers. The resulting loss of surface flora is not just a cosmetic problem; it could result in huge dust storms that blanket Salt Lake City.St. George, sort of a Las Vegas wannabe in terms of growth rate (but without the sinful fun), wants to build a billion-dollar pipeline that sucks water out of Lake Powell -- despite the imminent demise of the lake. In the Upper Basin, Aaron Million, with dreams to match his name, wants to build a 560-mile pipeline from the Green River to Colorado's Front Range and divert 250,000 acre-feet.

Plus, the city of Denver wants to dramatically increase the water it pumps out of the Colorado River Basin, and the state of Wyoming recently created a new state "Dam and Reservoir Section" to investigate the feasibility of new diversions on the Green River.

These grandiose schemes for new diversions are not "the way of the future," but rather the last gasp of a dying water ethos. The myriad problems of the Colorado River point to one inescapable conclusion: Western water policy is hopelessly, irrevocably unsustainable. Policies that once created stability are now an albatross, preventing the West from making fundamental changes in the way it allocates and uses its water.

It is time for a new era in water management. The first step requires dispensing with the absurd notion that infinite growth can take place in a region with severely constrained resources.

The second step is to realize that agriculture, which uses the lion's share of the river, is going to take a big hit. Many of the crops grown in the basin are low value, such as hay, or are commodity crops that are already over-produced in the United States.

And the third step requires improving the quality of the water by forcing all polluters to clean up their mess. That includes agriculture, mining and municipalities with inadequate urban treatment. These changes will not be easy -- it's like prescribing a root canal for an entire region without offering nitrous oxide. But the longer we wait, the more difficult it will be to make the transition to a policy that meets the reasonable needs of cities, a service economy and the age of limits.

Dan McCool is a contributor to Writers on the Range, a service of High Country News (hcn.org). He is a political science professor and director of environmental studies at the University of Utah.

World News 04/22/10

**Sipping from the Third Straw**

Sipping from the Third Straw
Water Canada
Posted on 22 April 2010 · Written by Kerry Freek

Patricia Mulroy addresses a rapt WaterTech audience this afternoon.

“I’m not here to steal your water,” joked Patricia Mulroy as she took the stage this afternoon.

Funny she should say so. This year’s WaterTech, taking place in Banff, isn’t too far from Calgary, which is currently experiencing its own water shortage.

Mulroy is the general manager of the Southern Nevada Water Authority (SNWA), and, although she jests, water shortages are no joke to her. “The ten-year drought in the Colorado River has been devastating,” she said.

Southern Nevada relies on the tired, rapidly depleting Lake Mead for 90 per cent of its water (the other 10 per cent comes from groundwater). In just ten years, Mead’s elevation levels have dropped from approximately 1,225 to just over 1,080 feet—and they’re expected to be lower. “At 1,050 feet, we’ll see the end of the Hoover Dam,” said Mulroy.

Already it has two intakes to serve two million residents and 40 million annual visitors, but, due to Mead’s condition, Las Vegas’ first intake may soon be out of business. The SNWA has had no choice but to begin construction on a third “straw” at a lower elevation. The estimated cost? About US$800 million, including a $25-million tunnel boring machine. Despite the expense, said Mulroy, “failure is not an option.”

Not only is the first intake at risk, but now they face a new challenge: quagga mussels. The second intake (built in the mid-90s at elevation 1,000 feet) has been infested by this invasive species, she explained, showing images that make a Great Lakes-dweller like me shudder in fear.

In a chat prior to her talk, I asked Pat Mulroy if there were ever any other options for Las Vegas. “There were no other projects. The only other alternative is to diversify where the water comes from, and that’s the next iteration. It’s not as if you could look at alternatives,” she said. “We’re racing the clock.” Prior to beginning work on the third intake, they upgraded pumps on the second to higher capacity to ensure that they’d get through the summers of 2011 and 2012 if the drought beats the completion of the third.

When did real change start to take place? “We transformed everything in 2003,” she said. “We now recycle 100 per cent of all wastewater—whether it goes directly to a reuse facility and is delivered to parks and golf courses, or large tertiary plants that return the flow to Lake Mead. For every gallon of water we put back into Lake Mead, we

can take out an additional gallon over our allotment. Since we can convert all our reuse water, we can increase our diversions to Lake Mead. Everything is reclaimed."

What is Las Vegas doing to promote water conservation? They have a number of incentive programs, Mulroy told me. For example, for each square foot of grass removed from properties, customers receive US$1.50 per square foot. They're also encouraged use desert-appropriate landscaping plans. "To date we've spent over US$130 million rebating to our customers to take turf out," said Mulroy.

New construction must not have new grass; it must be desert landscaping. If customers want a fountain, they have to remove enough turf to equal 50 times the amount of water that the fountain would use in a year. Everyone is on a strict permanent watering schedule—they even have water cops, Mulroy told me. "We have a hefty fine schedule. You're fined for every day you violate—if we see water running off your property, or you water on the wrong day, or you have a broken sprinkler head… we're there to get people's attention.

Our water enforcement is going out to educate people." I asked Mulroy how the water shortage and restrictions have changed the behaviour of Las Vegas residents.

"We've seen a huge paradigm shift," she said. "We've been able to save 26 billion gallons of water. We drove our per capita consumption down from 365 down to 240 and have set a new goal of 199, and that's diversion, so it will be way down there by the time we get to 199."

The Bureau of Reclamation expects that Lake Mead will rebound "somewhat" over the next two years. What does Mulroy think about these claims? "I love it when they say those things because they're predicting next year's snowfall," she said. "They want this [drought] to end just as much as we do. But those kinds of pronouncements are very annoying because they're not borne in reality. You have to hope for the best and plan for the worst."

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LR Letter 04/26/10

**Tar Sands Strip Mining in the Uinta Basin**

Letter to Utah Division of Oil, Gas and Mining

13 page pdf file with working hyperlinks to references, photos, press, and helpful information.

Letter of response from Utah Division of Oil, Gas and Mining

Additional letter of response from Utah Division of Oil, Gas and Mining

Confirmation of informal hearing from Utah Division of Oil, Gas and Mining

Response of informal hearing from Utah Division of Oil, Gas and Mining

Appeal to Board of Utah Division of Oil, Gas and Mining

Click here for story in Reuters.

Click here for story in Moab's Times-Independent.

FOR ADDITIONAL INFORMATION
Click here for the Far Country web site

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Regional News 04/27/10

**West slope water interests aim to keep Colorado River power plant**

Click here to read Ski-Hi Daily News article

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Regional News 04/29/10

**Southern Nevada Water Authority hails benefits of far-flung projects**

By HENRY BREAN
LAS VEGAS REVIEW-JOURNAL
Linked here

Southern Nevada Water Authority officials Kay Brothers, far left, and Bill Rinne take part in a tour Wednesday of a new reservoir in the California desert near the Mexico border. The authority helped pay for the structure in exchange for Colorado River water.

Southern Nevada Water Authority officials traveled to the desert near the Mexico border Wednesday to celebrate two projects they helped pay for even though they are hundreds of miles outside their service area.

The projects, which grew from interstate collaborations that seemed inconceivable just over a decade ago, should help squeeze more water out of the drought-stricken Colorado River.

Wednesday's tour began along the All-American Canal in California, where a new reservoir will soon begin capturing river water that would otherwise flow into Mexico but not count against that country's river allocation.

The water authority picked up roughly 80 percent of the cost for the $172 million reservoir. In exchange, the authority will be allowed gradually to take an extra 400,000 acre-feet of water out of Lake Mead over the next 25 years as conditions on the river system permit.

One acre-feet of water is enough to supply two average Las Vegas homes for one year. The 300,000 acre-feet Nevada gets from the Colorado River each year is used to supply about 90 percent of the water used in the Las Vegas Valley.

Municipal water purveyors in Arizona and California also bought into the so-called Drop 2 Reservoir, which the U.S. Bureau of Reclamation hopes to begin operating in July.

Lorri Gray-Lee is director for the bureau's lower Colorado River region. She said that a decade ago she never could have talked the region's water managers into paying millions of dollars for such a reservoir.

"They would have laughed me out of the room," she said.

Water authority chief Pat Mulroy said the drought on the Colorado has changed that. It has forced the states that share the river, and the municipal and agricultural interests within those states, to work together in ways they never did before.

It also has led major water purveyors such as the authority to invest directly in far-flung projects such as Drop 2 and a water desalting plant that is now being brought out of mothballs in Yuma, Ariz.

"And our next investment, if you want my prediction, will be in Mexico," said Mulroy, who was in Yuma on Wednesday to mark the reopening of the desalting plant. "So we'll even be leaving the United States and investing in the nation of Mexico."

Specifically, she said Nevada could one day help fund the construction of ocean desalting plants along the Mexican coast in exchange for a share of that country's Colorado River water.

The water authority could also buy into some future program that would pay farmers in Mexico to fallow crops temporarily that would otherwise use water from the Colorado.

Seven states and Mexico share water from the Colorado River under compacts dating back nearly 90 years.

The Yuma Desalting Plant will begin a one-year pilot program next week to test its ability to clean salt from agricultural runoff and deliver the water to Mexico.

The pilot run is expected to produce about 29,000 acre-feet of desalted water and allow an equal amount of Colorado River water to be kept in Lake Mead.

The authority will pay more than $2 million, or about 10 percent of the cost for the pilot run, in exchange for about 10 percent of the river water the plant's operation is expected save.

Contact reporter Henry Brean at hbrean@review journal.com or 702-383-0350.

Regional News 05/04/10

**Experts predict ‘mediocre' runoff for Colorado**

JOHN GARDNER
GLENWOOD SPRINGS CORRESPONDENT
Linked here

GLENWOOD SPRINGS — The spring runoff season is an exciting time for hydrologists.

“This is our favorite time of year,” said Bryon Lawrence, a hydrologist with the National Oceanic and Atmospheric Administration office in Grand Junction. “Because this is when things start to happen.”

However, Lawrence is not too excited about the spring runoff season this year due to a lack of snow accumulation this winter. He said that this year is shaping up to be a “mediocre” runoff year at best.

“The snowpack has been considerably below normal, and we are not expecting a really good runoff this year,” he said.

As of Monday, the Colorado River basin was reportedly at 90 percent of year-to-date precipitation average, according to the Natural Resources Conservation Service.

The recent snowstorms have helped bring the precipitation levels up slightly, but they have not added much to the snowpack, according to Dave Merritt with the Colorado River Water Conservation District.

“They've helped somewhat, but it hasn't changed things much as of [Monday],” he said. “We are still looking pretty dry despite what we are seeing. It hasn't done that much to the snowpack.”

According to Merritt the area from Grand Lake to Grand Junction remains at 78 percent of average snowpack levels. And statewide, Colorado is at 84 percent of average, he said. Western Colorado is currently at 80 percent of annual snowpack.

The low snowpack will result in a less-than-average runoff, Lawrence said.

According to the National Weather Service, the Colorado River peaked on May 21 in 2009, running at 10,000 cubic feet per second (CFS) at Dotsero. The average peak runoff for the Colorado River at Dotsero is 9,425 cfs. The weather service predicts the peak runoff to be well below the 2009 levels, at only 4,500 cfs this year at the same location.

Lawrence expected the peak runoff not to occur until the end of May, or even as late as June 20. However, that is the typical time frame for the peak to occur, he said.

The National Water Information System real-time water flows used by the U.S. Geological Survey reported the Colorado near Dotsero at 1,360 cfs on Monday.

In comparison, this year the Roaring Fork River basin is currently at 95 percent of average for precipitation. The Roaring Fork's peak flow is expected to be about 4,200 cfs, just 300 cfs less than experts are expecting for the Colorado River. However, that is still well below the average peak runoff of 6,150 cfs for the Fork.

Of course, predicting the peak runoff flow is a very slippery slope.

“It's really difficult to know the day you will see peak flow because it all depends on weather conditions,” Lawrence said.

With warmer weather, peak runoff will occur much more quickly than with lower temperatures.

According to the Bureau of Reclamation, dry conditions for the Upper Colorado River Basin have persisted in 2010. According to the bureau's website, the Climate Prediction Center estimates that temperatures for May, June and July in the Upper Colorado River Basin are expected to be above average, increasing the pace of runoff. However, precipitation is also expected to be above average for the same time period.

But it may not be enough to bring levels up to sufficient amounts.

“It's a little too late,” Lawrence said. “It's going to take a lot more to make up that deficit, even with what we've had.”

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http://www.aspentimes.com/apps/pbcs.dll/article?AID=/20100504/NEWS/100509969/1058/rss&template=printart

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Regional News 05/06/10

**Ariz. desalting plant begins operation, replacement flows for wetland secured**

April Reese, E&E reporter
The Bureau of Reclamation this week flipped the switch on the dormant Yuma Desalting Plant in Arizona, launching a yearlong test to determine whether the 18-year-old facility can finally live up to its promise to help solve the Colorado River Basin's water supply challenges.

The pilot run, which began Monday, will also be a test of a landmark agreement involving the United States, Mexico and a coalition of environmental groups to protect a vast Mexican wetland that depends on the salty agricultural runoff that will now be diverted to the plant, where it will be cleaned and released into the Colorado River.

The $250 million plant was built in 1992 to help meet treaty obligations requiring the United States to send 1.5 million acre-feet of clean Colorado River water to Mexico each year. But nine months after signing the treaty, plant managers shut down the

facility after a flood damaged an intake canal. Ample flows in the Colorado River Basin in the ensuing years rendered the plant unnecessary.

Now, with a prolonged drought parching the Lower Colorado Basin -- and with Arizona, Nevada and California scrambling to avoid water shortages amid rising demand -- the plant has taken on renewed importance (Land Letter, March 22, 2007). Water providers are hoping that the pilot project, which will treat 29,000 acre-feet of runoff from Arizona farms and discharge the cleaned water into the Colorado River just above the U.S.-Mexico border, will demonstrate that the plant can be operated on a long-term basis.

With the plant helping to meet the United States' treaty obligations to Mexico, Reclamation can leave more water upstream in Lake Mead for use by domestic users, including California's Metropolitan Water District, the Southern Nevada Water Authority and the Central Arizona Water Conservation District.

The three entities, which are helping to pay for the $23 million pilot project, will receive water credits in Lake Mead to help slake the thirst of Las Vegas, Phoenix, Los Angeles and other cities during the pilot run.

The Bureau of Reclamation this week launched a 365-day pilot run of its Yuma Desalting Plant near Yuma, Ariz. If successful, the plant could be restored to full capacity, providing water for municipalities in California, Arizona and Nevada. Photo courtesy of BuRec. "Drought, population growth and the impacts of climate change on water in the Southwest have increased the stress on the Colorado River," said Anne Castle, assistant Interior secretary for water and science, in a statement. "These collaborative undertakings ... exemplify the types of partnerships needed to stretch available supplies to meet both current and future water needs."

Angel Santiago, vice chairman of the Metropolitan Water District's board of directors, said the project "will be critical in conserving supplies for future use," particularly given current drought conditions in California.

The amount of water each entity receives will correlate with its financial contribution to the project. The Metropolitan Water District will pay 80 percent of the cost in return for 80 percent of the water. Arizona and southern Nevada will each get a 10 percent share. In all, the three entities will pay for about $14 million of the pilot run's cost. The federal government will pay the $9 million balance.

The plant will run at one-third capacity for 365 days, which could be spread across 18 months depending upon how often the plant needs to be taken offline for maintenance or evaluation, said Jennifer McCloskey, area manager for Reclamation's Yuma, Ariz., office.

BLM conducted a 90-day demonstration run at 10 percent capacity in the spring of 2007 but concluded that a longer test was necessary to determine whether the plant could be operated on a long-term basis. That test run showed encouraging results, McCloskey said, adding that she is optimistic that the plant will prove its mettle in the new, bigger pilot run.

"My confidence level for the operation as a pilot run is very high," she said. "All the work was done up-front, in the planning stage, and now it's just smooth sailing."

Protecting the wetland

Ecologically, however, it remains to be seen whether Reclamation can operate the plant at one-third capacity while still protecting the Cienega de Santa Clara, a vast wetland south of the border.

The closure of the plant, located about 5 miles west of Yuma, Ariz., resulted in an incidental ecological benefit for the wetland. Highly saline agricultural runoff that would have been diverted for treatment was rerouted into the Colorado River Delta, bypassing the Lower Colorado River and expanding the Cienega de Santa Clara to 40,000 acres.

Concerned that the reopening of the plant would destroy the Cienega, which has become an important stopover for migratory birds and provides habitat for 95 species, environmental groups fought the proposal for years. But under the new agreement, parties on both sides of the border will provide 29,000 acre-feet of replacement water to make up for the loss of high-salinity flows to the wetland.

A pair of environmental groups -- Environmental Defense Fund in the United States and ProNatura Noroeste in Mexico -- have purchased water rights from Mexican farmers, freeing up irrigation water. The United States has committed to diverting excess water from the Colorado River during rainstorms to the wetland. Mexico has not yet revealed how it plans to meet its obligations under the agreement.

Jennifer Pitt, a senior resource analyst for Environmental Defense who has worked for years to protect the wetland, said she believes the agreement will ensure that the wetland stays wet while the desalting plant is in operation over the next year or so.

"To me, not only have we achieved important protection, but it's also the first time the U.S. or Mexican governments have, separately or together, sent water resources to an environmental resource in the delta," she said. "That is a really good turn of events, and demonstrates that it can be done -- there's a spirit of cooperation that hasn't been there in the past."

"Two years ago, we didn't dream of this," added McCloskey, the Reclamation manager. "We didn't know this could be done."

That cooperation could also help provide a foundation for future agreements if the plant is fully restored, Pitt and McCloskey said.

But another Lower Colorado River project designed to stretch water supplies in the basin could complicate future efforts to secure water for the delta.

Along with the Yuma Desalting Plant pilot run, Reclamation is also constructing the $172 million Drop 2 storage reservoir project, located in Southern California about 30 miles west of Yuma. That project will store excess water flowing down the Lower Colorado River during rain events for use by the Imperial Irrigation District.

While that project, like the desalting plant, will allow Reclamation to leave more water in Lake Mead for cities, it will capture the same water that Reclamation is now using to help replenish the Cienega de Santa Clara during the pilot run of the plant.

McCloskey said the Drop 2 reservoir system is complex and it is unclear whether it could be operated to allow for releases to the wetland. "We'd have to think a lot more about it," she said. "We have a lot to learn about how we're going to be able to use Drop 2."

Thanks to recent heavy rains, Reclamation has already met its requirement to send about 10,000 acre-feet to the Cienega to offset the loss from the desalting plant's pilot run, she added.

"We knew once we got Drop 2 completed it would be harder to fulfill our commitment," she said. "But we've had several rain events, and we've already sent the whole amount that the U.S. was required to send."

The water promised by environmental groups and Mexico will be sent to the wetland at a later date during the pilot run, she added.

Looking ahead

If the pilot run is successful, and Reclamation decides to bring the plant online full-time, environmentalists will watch closely to make sure the wetland is fully protected, Pitt said. "If they're going to continue to run the plant, there are a lot of issues to be examined," she said. "I think EDF and our conservation partners will be adamant about making sure the Cienega is protected in the future."

But the Yuma Desalting Plant's long-term cost-effectiveness remains largely unknown. Even if the pilot run at one-third capacity is a success, McCloskey said making the necessary improvements to allow the plant to operate at full capacity would be costly. For example, she said, all of the plant's piping would need to be replaced.

"There's a pretty big capital investment that would need to be made just to address the wear and tear and aging," she said. "I don't know where that money would come from, so that's a pretty big hurdle to wade through in terms of the plant's future."

Reese writes from Santa Fe, N.M.

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LR Letter 05/17/10

**EA for Green River Pumping Project**

May 17, 2010

Mr. W. Russ Findlay
Fish and Wildlife Biologist, PRO-773
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Subject: Draft Environmental Assessment and Biological Assessment for the Green River Pumping Plant Project

Dear Mr. Findlay

Thank you for this opportunity for Living Rivers and Center for Biological Diversity to provide comments concerning the Environmental Assessment and Biological Assessment for the Green River Pumping Project.

Our members and staff are concerned about the impairment of critical habitat for endangered species of the Colorado River basin, namely bonytail chub, humpback chub, razorback sucker and Colorado pikeminnow. We regard the river reaches between Flaming Gorge Dam and the Confluence with the Colorado River as the best hope for their recovery, since the mainstream is nearly free-flowing for over 425 miles.

We are also concerned about the 50% decline in the populations of threatened fish species of the Upper Basin, namely bluehead sucker, flannelmouth sucker and roundtail chub. Declines in the populations of threatened and endangered fish species, especially bonytail chub and razorback sucker, indicate that the Upper Basin Recovery Program is not successful despite 32 years of activity. The next 32 years are not likely to be productive either, considering depletions in the Upper Basin will increase in-step with streamflow reductions due to persistent drought and climate change.

Until the endangered fish species are delisted, we respectfully request that all proposed water contracts with the Bureau of Reclamation be suspended. This request is reasonable and prudent considering the two-year Basin Study Initiative now underway by Reclamation and the seven basin states, which will attempt to address the acknowledged, system-wide imbalances of supply and demand. Until the imbalances are mitigated, it is highly likely that legal challenges in the basin will occur over water rights, water quality, and endangered species.

**Need and purpose for a basin-wide Programmatic Environmental Impact Statement**

We insist that the Department of Interior and its agencies implement a basin-wide Environmental Impact Statement immediately. The key aspect of the study should address the recovery of endangered fish. In so doing, Interior will simultaneously solve the issues of water quantity and quality for both basins and

Mexico.

**Specific Concerns for Critical Habitat in Reach Three of Green RIver**

There are both existing and proposed water withdrawals below the US Geological Survey gage at Green River, Utah that do not have contracts with Reclamation for water from Flaming Gorge Reservoir. The critical habitat for endangered fish in Labyrinth and Stillwater Canyons is defined as having low gradient with massive amounts of sediment that create ideal slack water nurseries for endangered fish. However, we have observed on river trips in Labyrinth and Stillwater Canyons that sandbar habitats can entrap juvenile fish, which increases mortality, when the river level drops due to intense evaporation and irrigation in July and August.

We think it is necessary for Reclamation and US Fish and Wildlife Service to make a proper determination of what the summer minimal instream flows should be for Labyrinth and Stillwater Canyons to eliminate mortality caused by increased depletions. We also suggest that the USGS install a gage above Canyonlands National Park so that the instream flows can be properly monitored for compliance. Mineral Bottom at River Mile 52 comes to mind as a potential locality for this stream gage for reasons of accessibility by road.

We also suggest that Tusher Wash Diversion Dam above Green River, Utah be replaced with a dam that allows safe passage of fish and river boats. We also suggest that the diversion have a sophisticated screening devise to keep eggs and juvenile fish from being stranded in irrigated fields. This dam was initially constructed with cottonwood cribs filled with rocks and the integrity of the dam is questionable considering the age of the facility.

Thank you again for this opportunity to comment. If we can be of any assistance, please do not hesitate to contact us.

Sincerely yours,

John Weisheit
Conservation Director
Living Rivers

Robin Silver
Board of Directors
Center for Biological Diversity

Letter is archived here

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Regional News 06/20/10

**Development in Colorado going with the flow of water deficit**

By Bruce Finley
The Denver Post
POSTED: 06/20/2010 01:00:00 AM MDT
Linked here

Click on image to enlarge Colorado River water consumed yearly for agriculture and by the 30 million Westerners who rely on it now exceeds the total annual flow.

A growing awareness of that limited flow is leading to increased scrutiny of urban development — especially projects that require diverting more water to the east side of the Continental Divide.

"We're no longer in a surplus situation," said Bill McDonald, the U.S. Bureau of Reclamation's deputy commissioner for policy and budget. "The teeter-totter has tipped."

Federal data show that the average annual use of Colorado River water (15.4 million acre-feet) has surpassed the average annual supply (14.5 million acre-feet) in the river.

Factor in climate change — state officials project a 10 percent or greater reduction in water available — and the specter of scarcity looms even higher.

"We actually have run up against what the river provides," said Bart Miller, water program director for Western Resource Advocates, a law and policy firm. "Our choices moving forward have to be very careful ones. Brand new uses are going to have to be displacing other uses."

Colorado still doesn't use all of its 3.88 million acre-feet allotment under the interstate compact that governs use of the river. An acre-foot contains 325,851 gallons, enough to sustain two families of four for a year. State officials are trying to calculate the unused share. Estimates range up to 300,000 acre-feet.

"Just because the Colorado River as a whole is overused" doesn't necessarily prevent development in Colorado, said Eric Kuhn, manager of the Colorado River Water Conservation District. "The lower states (California, Nevada, Arizona) are using far more than the upper states."

Yet authorities here increasingly ask questions.

This month, the U.S. Army Corps of Engineers stepped up scrutiny of Denver Water's proposed diversion from upper Colorado River tributaries through the Moffat Tunnel to an expanded Gross Reservoir. Federal engineers demanded more data to evaluate environmental impacts.

The American Rivers advocacy group recently cited Denver's project in designating the upper Colorado the nation's sixth- most endangered river.

"We take that seriously," said Scott Franklin, project manager for the federal engineers.

For Denver residents, project delays mean "that we would have less water in storage to cushion us and get us through a drought," Denver Water project director Travis Bray said. "If we don't have that much water in storage, then you could be looking at more severe restraints."

Suburban metro water providers also are planning diversions of water out of the Colorado River Basin to enable population growth.

Energy companies, too, seek water — for drilling in the development of oil shale. Veteran water lawyer Glenn Porzak has recommended that energy executives work in concert to divert and store water they need.

"The state is at that critical juncture where demand is starting to outstrip available water supplies," Porzak said. "Either you need to think about limiting development, or you are going to see massive conversions of agriculture to municipal use. It is going to be a trade-off. The day of reckoning is coming."

Meanwhile, plans to let more river water run its course naturally, for environmental purposes, appear increasingly difficult. At Grand Junction, a stakeholders group last week recommended against a federal "wild and scenic" designation for a stretch of the river before it reaches Utah because this could hurt Colorado's ability to use water.

Even incremental development within the Colorado River Basin on Colorado's Western Slope is running into water sensitivities.

A plan to build a new town of 5,000 on former sheep pastures at Wolcott is up for review.

Developer Rick Hermes carefully converted ranchers' agricultural water rights to municipal rights — and received an Eagle River Water and Sanitation District commitment to serve his "river-centric" town.

The town would be built without a new golf course, breaking the mold for Vail-area development. A new sewage treatment plant is planned, ensuring that water withdrawn for town showers, toilets and lawns could be returned to the Eagle River, which flows into the main stem of the Colorado River.

"In the early 1990s," Hermes said, "water wasn't in the top five items (discussed during permitting). You just assumed you would have the right to develop."

Eagle County commissioners' decision on whether to allow construction also may be based on efficient use of water. State data indicate daily water consumption per person in Colorado River Basin communities currently is 256 gallons per person, compared with 178 gallons in the South Platte River Basin along the Front Range.

Water "is increasingly something that local officials are aware of," commissioner Jon Stavney said. "I have questions about whether we need to create a whole new town. . . . Do we need to create a whole new water service community where none existed?"

Bruce Finley: 303-954-1700 or bfinley@denverpost.com

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Regional News 06/27/10

**Warming Climate Means Trouble For Southwest Plantlife**

This month, fires have charred tens of thousands of acres in New Mexico, Colorado and Arizona. After more than a decade of drought, these large seasonal fires are increasingly a part of life in the Southwest, and fire can be revitalizing in many conifer forests.

However, unlike other conifers -- including their larger cousins the Ponderosa pines -- fire hasn't played a fundamental role in many pinyon pine ecosystems. As a result, the trees are easily killed by it.

Between the surrounding high deserts of the Southwest and the ponderosa pine forests of the Colorado Plateau, a transition zone of pinyon pines and juniper trees dominates the landscape. Pinyons are a symbol of life on the plateau. These woodlands hold a wealth of biodiversity, providing homes for a vast array of plant and animal life. Their dry, open forest-floors allow for the growth of desert plants like yucca and prickly pear cactus.

In rockier areas, small plants like lichens, Rockmat and vibrant-red wildflowers called Indian Paintbrush are prevalent. The small, often shrub-like trees can take hundreds of years to grow a six inch trunk and full-grown they can be little more than a bush, or if conditions are favorable they can grow as tall as a five story building.

This reluctant growth has allowed pinyons to thrive in the arid Southwest for millennia, but today the trees are vanishing from the landscape. A decade of drought, which scientists said is a direct result of climate change, has allowed bark beetles to feast on Southwest forests and left them vulnerable to catastrophic wildfires.

"There is little doubt that our current drought has driven processes that resulted in mortality for some plants," said Ken Cole, a researcher with the U.S. Geological Survey in Flagstaff.

Cole's research has shown that bark beetles, catastrophic fires and other unknown causes have resulted in the widespread death of pinyon pines. Climate change is expected to increase the frequency and intensity of drought in the coming decades and ecologists think the changes may be too quick for species occupying the most vulnerable of ecosystems, such as the transition zones.

The history of fire in many pinyon forests is not yet well understood, but studies from many old growth forests and the lack of fire scars indicate that until recently large, stand replacing fires were rare, occurring only once every 400 years or so. So, the last century of fire suppression ethics has had less of an impact on pinyons than it has on many other species. Ecologists say that drought conditions may have shifted the environment in favor of non-native species, so when pinyons do burn, invasive shrubs and grasses often sprout up in their place as well as oak and mahogany trees.

These new invasive plants are much more flammable than natives and are literally adding fuel to the fire. Once an understory of these fire prone plants is in place, it would make it more difficult for pinyons to recover. Post-pinyon woodlands could resemble chaparral or savannah—something like the interior valleys of California.

Rainfall totals in the most recent drought have been comparable to those the Southwest has experienced in the past, but the droughts have been unusually hot. Researchers believe these temperature increases are a direct result of climate change and exactly the type of conditions models have predicted will become more frequent in the Southwest in the coming century. Cole said these conditions will result in widespread reductions in pinyon pines, but scientists are reluctant to speculate on how bad it will be.

“The correlations between these model predictions and our climate trends of the last 20 years should concern everyone,” Cole said.

In a paper published in the Proceedings of the National Academy of Sciences, University of Arizona ecologist David Breshears and his colleagues described how pinyons respond to long-term drought. "Lots of attention focuses on the bark beetle effects on pinyon pines, but the pinyon response is also tied tightly to their water response," Breshears said.

And despite the recent wet winter, the Southwest is still firmly in the midst of a drought. The group conducted an experiment at Biosphere 2—a research building containing an artificial, sealed ecosystem outside of Tucson—and found that drought stressed trees exposed to higher temperatures died thirty-percent more often than trees at normal temperatures with identical conditions. This indicates that die-offs could occur five-times more often.

"They are the trees that make it at the lowest, driest areas, below which shrubs and grassland and deserts dominate," said Lisa Floyd-Hanna, an ecologist at Prescott College studying pinyon-juniper woodlands. "Thus, they are tough." In a drought, a pinyon tree will close off its pores to conserve water and try to ride it out.

However, the pores are also necessary for it to breathe in carbon dioxide, and it starves itself waiting for rain. While the tree could last for long periods of time in an average drought, the increased heat makes it die of exhaustion much quicker. Also in response to drought, pinyons stop producing sap, which is the tree's first line of defense against bark beetle invasion. The insects are then free to move in and start their feeding frenzy on the unprotected trees, helping to create the conditions for catastrophic wildfires.

"Since there are only two dominant tree species, near complete loss of one species is indeed devastating," Floyd-Hanna said.

Already, hiking in these forests is like a walk through a graveyard where the dead lay unburied. In areas of Arizona, New Mexico and Colorado there are places where more than half the pinyons are already dead. In Sante Fe, as many as 90 percent are dead.

"Higher temperatures cause more evaporation and the result is less of the moisture being available for plants, animals and municipalities," Cole said.

Despite the last season of wet weather, climate models predict the situation will only get worse in the Southwest in the coming decades. Floyd-Hanna said there is hope that pinyon forests can recover. In other areas in the Southwest, such as the old-growth pinyons around Mesa Verde National Monument, young pinyons are growing up where bark beetles have recently killed off large numbers of trees. And the saplings are outcompeting the invasive species that have plagued similar sites.

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Regional News 07/01/10

**Prepare for Hotter and Drier Southwestern US, Climate Experts Urge**

ScienceDaily (June 28, 2010)
Link to article in Science Magazine

Two prominent climate experts, including one from the University of Arizona, are calling for a "no-regrets" strategy for planning for a hotter and drier western North America. Their advice: use water conservatively and continue developing ways to harness energy from the sun, wind and Earth.

Jonathan Overpeck, principal investigator with the Climate Assessment for the Southwest at the UA, and Bradley Udall, director of the Western Water Assessment at the University of Colorado, write in the June 25 issue of the journal Science that such an approach is necessary for coping with a wide range of projected future climate changes in the West and Southwest.

In their overview of shifting climate in the region, Overpeck and Udall cite published findings of prevalent signs of change: rising temperatures, earlier snowmelt, northward-shifting winter storms, increasing precipitation intensity and flooding, record-setting drought, plummeting Colorado River reservoir storage, widespread vegetation mortality and more large wildfires.

"The West, and especially the Southwest, is leading the nation in climate change -- warming, drying, less late-winter snowpack and drought -- as well as the impacts of this change," said Overpeck, a UA professor of geosciences and atmospheric sciences and co-director of the Institute of the Environment.

In the past 10 years, temperatures in almost all areas in western North America have surpassed the 20th century average, many by more than 1 or even 2 degrees Fahrenheit. The warming has decreased late-season snowpack, which serves as a water reservoir, as well as the annual flow of the Colorado River, the researchers said.

Those reductions, combined with the worst drought observed since 1900, haven't helped matters; water storage in Lakes Powell and Mead, the largest southwestern water reservoirs, fell nearly 50 percent between 1999 and 2004 and has not risen significantly since.

In addition to water, vegetation is feeling the effects of climate change. Work by UA's David Breshears and colleagues have already showed that more than 1 million hectares of piñon pine have died in the Southwest in the last few decades from a lethal combination of record-high temperatures and uncommonly severe drought. In addition, the frequency of large wildfires has increased as snowpack has decreased.

While researchers are confident that the higher temperatures and resulting changes in snowpack, Colorado River flow, vegetation mortality and wildfires are human-caused, they don't know whether the drought that has plagued the West for the last 10 years -- the worst since record-keeping began -- is because of humans, Overpeck said.

"It's critical to determine the causes of the observed change, including the drought, because then we will have a much improved ability to say what's coming next, in the future," Overpeck said.

To complicate issues, studies published to date suggest that Colorado River flow could continue to decrease by 20 percent by 2050, with severe implications for cities served by Colorado River water and for agricultural production.

"One thing is for sure," Overpeck said. "The best strategy now -- the no-regrets strategy -- is to prepare for a hotter and drier West, Southwest and Arizona, and to make sure we don't commit water to things now in ways that could make water shortages in the future more difficult to deal with."

Fortunately, Overpeck said, scientists have a better understanding about potential future climate change in western North America than for many other regions around the globe, making it easier for policy makers to plan coping strategies.

The researchers also point to the region's potential wealth of solar, wind and geothermal renewable energy production.

"That offers a way to make up economically for the costs that will be incurred in adapting to the warmer, drier conditions," Overpeck said. "And it will have the side benefit of decreasing the chances, through reducing greenhouse gas emissions, for potentially greater human-caused climate change."

OpEd 07/05/10

**Hoover Dam's false promises**

MICHAEL HILTZIK
Los Angeles Times (MCT)
Linked here

The most striking sight greeting visitors to the Colorado River gorge known as Black Canyon used to be the great wedge of concrete spanning the canyon wall to wall. But in recent years Hoover Dam, that enduring symbol of mankind's ingenuity, has been upstaged by another sight signifying nature's power to resist even the most determined effort to bring it under control: a broad white band stretching along the edge of Lake Mead like a bathtub ring, marking how far the reservoir has fallen below its maximum level.

The nearly decade-long drought in the Colorado River Basin, which has lowered Lake Mead by about 120 feet from its high-water mark, reminds us that the promises made for Hoover Dam were always unrealistic. Delegates from the seven state capitals who met in 1922 to apportion the river's bounty (under the supervision of then-Commerce Secretary Herbert Hoover) were led to believe that the river, once dammed, would provide all the water their states could conceivably need to fulfill their dreams of irrigation, industrial development and urban growth.

To the federal officials anxious to get the dam project approved, this was a necessary subterfuge, for without it the states would never reach agreement and the dam would not be built. But today we must confront the consequences of that founding fiction. Hoover Dam truly made the West, but it has also confined it in the straitjacket of an ever-intensifying water shortage.

Promises based on the seemingly magical power of new technologies are almost always excessive (witness the tragedy in the Gulf of Mexico). This year, as we celebrate the 75th anniversary of President Franklin D. Roosevelt's dedication of "the greatest dam in the world" on Sept. 30, 1935, we should also recognize the dam's equivocal legacy to the West, and to the nation.

Connoisseurs of irony will note that on that day, under a blistering sun and before 10,000 spectators and 20 million radio listeners, FDR claimed as a symbol of the New Deal a public work conceived, designed and launched by his Republican predecessors.

Indeed, during the 1932 presidential campaign, candidate Roosevelt had savagely attacked Hoover, his GOP opponent, for excessive deficit spending on projects like the dam. Once ensconced in the White House, however, he quickly came to appreciate the totemic power of great public works and their effectiveness at representing the benefits that could be bestowed on the citizens by a visionary administration.

In his dedication speech Roosevelt proclaimed that the federal government and the seven states of the Colorado River Basin had jointly ensured that millions of current and

future residents in the West would enjoy "a just, safe and permanent system of water rights." He promised an end to the river's ancient cycle of drought and floods and a bountiful irrigation supply. He called the dam "a splendid symbol" that had turned the unruly Colorado into "a great national possession."

The nation took him at his word. Since that dedication year, the population of California and the six other states of the basin has swelled by some 45 million people. Much of this growth has been fueled by the dam and its precious bounties of water and electrical power.

The promise of abundant water and power took the brakes off the growth of Los Angeles, San Diego and many other western cities; it encouraged farmers to complacently plant the most water-thirsty crops; and it gave us city dwellers the impression that we can water our lawns every day without worrying about waste and runoff.

Yet the world Hoover Dam made is now facing the era of limits. For decades California was able to use Colorado River water formally apportioned to Arizona and Nevada, because those states weren't developed enough to use their full allocations. That condition ended in the mid-1990s, at which point California had to give up nearly 20 percent of its Colorado River supply.

Thus far we've managed a "soft landing" from that shock by crafting intricate reallocations of water among the state's agricultural, urban and ecological interests. But the balancing act is only getting harder, as a long drought shrinks our water-supply cushion and population growth continues almost unabated. Up to now, solutions to our water needs have been worked out in a crisis atmosphere. In the future, they'll take place against a political background too.

In the Central Valley, farmers are already marching to demand the construction of more dams to provide more water for irrigation, as if one can just create abundance out of thin air.There isn't enough water in the Colorado to serve all the demands we place on the river, and there never was. This was evident to some people, like the great Western explorer John Wesley Powell, who at an irrigation congress in 1893 announced, "Gentlemen, you are piling up a heritage of conflict and litigation over water rights, for there is not sufficient water to supply the land."

Powell was driven from the hall by a chorus of boos and catcalls. But time has proved him right. It was thought that Hoover Dam would put an end to 50 years of conflict over the water of the Colorado. It has not. We still delude ourselves into thinking that it will; only a few years ago, in 2003, then-Interior Secretary Gale Norton came out to the dam to sign 24 agreements transferring water rights among various claimants -- Indian tribes, irrigation districts, Western cities, the government of Mexico. And she proclaimed, "With these agreements, conflict on the river is stilled."

The truth is that conflict on the river will never be stilled, because there will always be more demand for the water than there is water.

We should not regret the building of Hoover Dam, which Roosevelt hailed three-quarters of a century ago as a "great achievement of American resourcefulness, skill and determination." It was a bold enterprise for a nation grappling with doubts about its place in the world at a time of crisis. Dealing with the problems of resources and growth bequeathed us in part by that remarkable Depression-era effort will require every bit as much boldness and resourcefulness, or more.

Michael Hiltzik, a Los Angeles Times columnist, is the author of "Colossus: Hoover Dam and the Making of the American Century," just published by Simon & Schuster.

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World News 07/26/10

**After dam failure, Iowa's nine-mile-long Lake Delhi is gone**

By JENNIFER JACOBS • and TONY LEYS • jejacobs@dmreg.com • July 26, 2010
Delhi, Ia. - Gov. Chet Culver vowed Sunday to restore Lake Delhi, a treasured summer retreat that drained away in less than a day this weekend.

The nine-mile-long lake all but disappeared after sudden floodwaters breached its 92-year-old dam Saturday morning. Residents fear millions of dollars in property values also washed away, because about 900 vacation homes and cottages lost their lakefront status.

"It just makes your jaw drop," said Irv Janey, a Marion resident who owns a condominium there. "The lake's gone."

The dam is owned by the local homeowners association, and state officials said the lake's sole purpose was recreation. The Department of Natural Resources said if the homeowners decide to rebuild the dam, it would have to meet modern design requirements.

"We would hold them to a higher standard so this couldn't happen again," said Jon Garton, a dam safety engineer for the department.

Garton said that despite the dam's age, it had been well-maintained. A 2009 state inspection found a few minor problems, but nothing that could have caused its failure, he said.

On Saturday, "there was just more water than it was designed for," he said.

Culver traveled here Sunday to reassure residents that he would do what he could to help restore what they'd lost.

"This is a real landmark, and I think it's in Iowans' best interests to save this lake," Culver said, standing in muddy work boots.

Members of the Lake Delhi Recreation Association, which owns the dam and pays for upkeep of the lake, pleaded with Culver for assistance.

"This is beyond our capacity to take care of ourselves," said association President Jim Willey.

The lake has several public boat landings and two public beaches.

Culver said the 900 area homeowners would not be on their own.

"We're going to throw everything we have at it, in terms of federal and state resources," he said.

Culver said the areas that broke were earthen portions of the dam, next to the main concrete structure. A 300-foot section was breached. Culver said the restoration could include reinstallation of hydroelectric turbines, which could generate power for a quarter of Delaware County.

Maggie Burger, a cabin owner and executive director of the homeowners association, said the Federal Emergency Management Agency agreed to help finance a dredging project to clear silt left by 2008 flooding. She said she hoped FEMA would agree to help again.

U.S. Rep. Bruce Braley, a Democrat who represents the area, said he also would work to obtain government money to help rebuild the dam. Braley said that the lake was the area's top tourist attraction, and that vacation homes there provided 10 percent of the county's tax revenue. FEMA spokesman Bob Josephson said it was too early to speculate about whether a dam rebuilding project could qualify for money from his agency. However, he said, vacation homes damaged by flooding generally are ineligible for such assistance. FEMA often helps people repair or replace their primary homes, he said, but not their second homes.

Several area homeowners said they lacked flood insurance. State officials said they didn't yet have accurate estimates of property damage. Homes along Lake Delhi range from modest cottages worth about $50,000 to large houses worth hundreds of thousands of dollars.

Property owners pay $4 extra per $1,000 of valuation each year to cover the upkeep of the dam and related costs. But the special lake district has no savings account. Instead, it has debt on a $3.5 million dredging project from 2004-05 that won't be paid off for another 15 or 16 years.

Homeowners expressed amazement at how fast the weekend's events unfolded. On Friday, vacationers floated on inflated tubes, played on beach sand and swam in quiet waters. By Friday night, floodwaters were surging through homes like never before. Then, on Saturday morning, the dam broke and the lake drained away.

"Now, my dock is 20 feet above where it should be," said Jim Kouba, a dentist from Bloomfield.

Several boats were forced ashore near his vacation home in the Hickory Hollow neighborhood, along with wooden docks and a yellow swimming slide. Foundations of nearby cabins blew apart when lake water outside drained away, leaving floodwater trapped inside basements. "Houses just exploded because the water couldn't escape fast enough," Kouba said.

Jamie Ashby's cabin was one of them.

"We heard them going down - boom, boom, boom - along the shore," said Ashby, an engineering manager at Heinz Co. in Cedar Rapids. Windows shattered and interior walls collapsed with the rapid change in water pressure. By Sunday afternoon, the shore of the lake was a steep cliff leading down to mud flats, then a thin channel of running river water. The air reeked of rotting fish. Lawns were muddy messes, laden with soaked furniture, carpet, drywall, insulation, mattresses and other household goods.

Relatives of Cheryl Schatzle were lucky enough to get one of the last available Dumpsters for rent in the area. They lighted a bonfire to get rid of paneling, 2-by-4s and other waterlogged wood from a cedar-sided cabin the family has owned for 40 years. Schatzle, a social worker, was heartsick, but she was keeping perspective. She noted that her family didn't lose its primary home, as so many people did in Cedar Rapids in 2008.

Still, seeing Lake Delhi as a puddle of its former self was troubling, Schatzle said. "What's going to happen to the lake? That's a concern I have. Maybe it'll never be the same," she said.

Garton, the DNR dam safety expert, said Iowa has dozens of dams similar in design to the one at Lake Delhi, though most are smaller. He said most are about 10 feet tall. The one at Lake Delhi was about 50 feet tall. The dam didn't have an emergency spillway to divert water before it could go over the top, he said. The dam had three gates to regulate outflows, and they reportedly were wide open.

But after storms dumped up to a foot of water on areas upstream, the gates apparently couldn't let water out fast enough to keep the lake from pouring over the top of the dam and to keep the breach from happening, he said.

Garton said a few smaller Iowa dams have failed in past years. "This is probably the most significant one we've had in recent history," he said.

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Regional News 07/27/10

**Global warming: NASA says it's the hottest year on record**

Lulu Liu | Sacramento Bee
Linked here

Worldwide, 2010 is on track to become the warmest year on record.

Scientists at the NASA Goddard Institute for Space Studies reported recently that the average global temperature was higher over the past 12 months than during any other 12-month period in history. The National Oceanic and Atmospheric Administration has released corroborating data, adding that the past four months, including June, have each individually been the hottest on record as well.

The NASA findings were based on data from 5,000 weather stations around the world, said scientist Reto Ruedy, co-author of the study. Scientists used temperature anomalies, or departures from the baseline, rather than absolute measurements to account for differences in the instruments of individual stations.

The average global temperature, computed over a 12-month period, reached a new record in May and held steady for the month of June, he said. This was despite the recent minimum in solar activity, which should have had a cooling effect on Earth.

Apparently, Ruedy said, the solar cycle "has much less impact than the warming trend."

NOAA research meteorologist Tom Knutson doesn't find that surprising. The trend has existed since records began in the late 1800s.

The new finding comes on the tail of a NASA announcement that 2000 to 2009 was the warmest decade in history.

"This is just the tip of the iceberg," Knutson said. "The models are projecting a substantial warming into the 21st century."

The temperature rise is caused by a fundamental imbalance, Ruedy said: "At this point, the Earth's atmosphere receives more energy from the sun than it emits as heat to the universe." The Earth will continue to warm until balance is re-established, at a higher global temperature.

That's another 1.1 degrees Fahrenheit if atmospheric composition does not change, according to the NASA institute's models. By comparison, global mean temperatures have risen by about 1.5 degrees Fahrenheit since 1880.

Meteorologist David Unger at NOAA's Climate Prediction Center in Maryland said that El Niño is likely a player in this year's record-setting warmth. 2010 began with "large areas of equatorial Pacific Ocean at above normal sea surface temperatures," he said. It's easier to set global temperature records when the tropics are exceptionally warm.

The El Niño phenomenon was also responsible for California's wetter-than-average winter and spring, he said. And its death, as the Pacific began to enter a conoler-than-average pattern, generated the unusually persistent trough that has brought Sacramento all that nice weather, he added.

April this year was 4.9 degrees cooler than average in downtown Sacramento. May was 5.3 degrees cooler. June 5 was the first 90-degree day of the year.

"What it did was it cooled the air over the entire region," said Dan Keeton, a meteorologist at the National Weather Service. "Most importantly for Sacramento, it enhanced the Delta breeze."

The Delta breeze is the region's natural air conditioner, he said. The ocean breeze follows the Sacramento River into the Central Valley.

"The influence can be pretty much Valley-wide in the strongest situations," Keeton said.

According to NOAA, California was one of the few spots in the world reporting below average temperatures from April through June.

On a large scale, only isolated regions in Southeast Asia and South America could say the same.

(Lulu Liu reports for the Sacramento Bee)

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LR in the News 07/28/10

**Groups challenge plans for Utah tar sands mine**

By Steven Oberbeck The Salt Lake Tribune
Linked here

John Weisheit of Living Rivers

A small Canadian company, in need of millions for its ambitious plans, also is facing stiff opposition from two Utah environmental groups that are trying to thwart its efforts to build one of the first commercial tar sand mines in the country.

Earth Energy Resources, based in Calgary, Alberta, received approval a year ago from the staff of the Utah Division of Oil, Gas and Mining to begin working a 62-acre deposit on the Uintah County-Grand County line.

But opposition from Moab-based Living Rivers and Peaceful Uprising has thrown that decision to Division Director John Baza, who said Tuesday at an informal hearing he anticipates ruling on the company's mining permit within the next 30 days.

"Even then, my decision won't necessarily be final," Baza said, indicating that anyone who disagrees with his ruling can appeal to the board of the Division of Oil, Gas and Mining.

Earth Energy Resources contends its process is environmentally friendly and uses citrus-based solvent to recover heavy oil, or bitumen, from tar sands.

“We can extract the bitumen in a far more responsible manner than has been done to date anywhere in the world,” said Barclay Cuthbert, Earth Energy’s vice president of operations. “We are eager to get this project under way.”

Environmentalists such as John Weisheit of Living Rivers aren’t convinced.

Weisheit noted that recovering bitumen from tar sands will require vast water resources and that Earth Energy’s project could be just the beginning of a wave of such development. That could have far-reaching effects on the environment in Utah and other states, he said.

“This type of project isn’t appropriate for the Colorado Plateau. There is just not enough water to develop those resources.”

Earth Energy is facing what may be a far more formidable obstacle than the outrage of Utah environmentalists.

The company needs to raise $35 million to fund the development of its plant that it projects will turn out 2,000 barrels of oil a day. Included will be $1.7 million it will need to purchase a bond so the state can be comfortable that adequate financing is available to handle the reclamation of the mining property once all the tar sands have been removed.

“It is a challenge,” Cuthbert said, indicating Earth Energy has some financing commitments in place but that many are contingent on the company raising the money that will put it over the $35 million mark.

He estimated that it may be 18 months to two years before Earth Energy’s Utah mine is up and running.

Juliana Williams of Peaceful Uprising questioned whether the threat to the environment was worth a plant and mine that over its seven-year life would produce the equivalent of four hours of the nation’s total energy needs.

“They promise there will be zero emissions and zero discharge, but those promises of safety will mean very little if something happens,” she said.

Four Utah refineries already process upward of 5 million barrels of crude a year that are recovered from tar sands in Canada, a figure that could climb by 13 percent if Earth Energy’s project eventually goes online, she said.

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**By PAUL FOY Associated Press Writer 07-27-2010 18:57**

SALT LAKE CITY (AP) _ An energy startup from Canada on Tuesday defended its plan to launch the first significant U.S. oil sands project in eastern Utah, after opponents argued it would dig up fragile topsoil and pollute groundwater.

The criticism against the Earth Energy Resources Inc. project came during an informal hearing before the head of the Utah Division of Oil, Gas & Mining, who is considering whether to uphold his staff's approval of the company's operating permit.

The Calgary, Alberta-based company insisted it won't pollute anything and will leave Utah's oil sands as clean as beach sand after processing with a citrus-based solvent.

"It will be a good project for Utah," company vice president Barclay Cuthbert testified. "We'll be providing energy that will be used in the state."

The company has obtained government permits to open the first U.S. oil sands surface mine designed for producing bitumen, a tar-like form of petroleum, at a 62-acre pit in eastern Utah. For decades other Utah operators have used oil sands as a poor-man's asphalt, but nobody has tried to produce petroleum from U.S. oil sands on a scale planned by Earth Energy.

The private company with 411 shareholders says it will turn out 2,000 barrels of oil a day after raising $35 million from private equity groups for the plant.

The Division of Oil, Gas & Mining approved a permit a year ago, but the company hasn't posted a reclamation bond needed to obtain the permit.

Division head John Baza held a "protest hearing" Tuesday to take objections from Grand County residents and environmental groups. The groups promised not to file a formal appeal to a state board pending Baza's review.

Opponents said an oil-sands operation that produces so little petroleum isn't worth doing, given the potential damage to public lands. State officials responded that their job was simply to ensure Earth Energy follows environmental rules. The company obtained a lease on Utah's trust lands.

Utah's oil sands will never prove economical, argued Tim DeChristopher, an environmental activist who faces a September trial on felony charges of disrupting the Bush administration's final oil-and-gas auction in Utah.

"This project is a bridge to nowhere," DeChristopher said.

Opponents fear Earth Energy's project is the start of widespread development of Utah's spotty oil-sands reserves, which they say can't be developed responsibly in a semiarid desert.

Earth Energy says it will take 4,000 barrels of water a day to make half as many barrels of bitumen and that it can pump the water from deep underground. Even state

regulators questioned whether that much groundwater was available, but said it wasn't their call to make.

The company says it has obtained water rights for the pumping.

John Weisheit, a Colorado River guide and founder of Living Rivers, said the project will be a disaster, and others questioned whether the company could possibly make money on it.

"We're not undertaking this project to go bankrupt," Cuthbert replied. He said the project was profitable with crude prices hovering around $77 a barrel.

Cuthbert added Earth Energy is hoping to "prove our technology" in its first business venture.

Baza said he will decide whether to uphold his staff's approval within a month.

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Deseret News Amy Joi O'Donoghue

**State officials listen to concerns about proposed tar sands mining project**

Linked here

Published: Tuesday, July 27, 2010 7:34 p.m. MDT

SALT LAKE CITY — Prompted by concerns lodged by environmental groups, the state Division of Oil and Mining held an informal hearing Tuesday to air questions on impacts that could result from a tar sands mining project straddling the borders of Uintah and Grand counties.

Proposed by Canada-based Earth Energy Resources, the operation would take place on 213 acres and involve the open-pit mining of tar sands to extract 2,000 barrels of bitumen per day over a seven-year period.

Although several of the hearing participants questioned the financial viability of the project, even terming it "experimental," Earth Energy Resources Vice President Barclay Cuthbert said the venture would not be pursued if dollars weren't going to follow.

"We're not undertaking this project to go bankrupt," Cuthbert said. "The economics of this project stand on their own."

Timothy DeChristopher, an environmental activist best known for deliberately monkey-wrenching a controversial oil and gas lease auction in December 2008, said he failed to understand why the state would allow the project to move forward given the unknowns.

"I can't understand why the state would allow an unprecedented, experimental project to happen in the Colorado River watershed," DeChristopher said. "This project is a bridge to nowhere."

Groups that include Living Rivers and Peaceful Uprising worry that the operation could contaminate tributaries that feed into the Colorado River and result in dust pollution because of the heavy truck traffic — all for oil that they say generates more greenhouse gas emissions than conventional crude oil.

Aside from those concerns, Living Rivers conservation director John Weisheit said the water taken from an aquifer necessary in the mining process could deplete the aquifer. Weisheit stressed that the value of the Tavaputts Plateau is to "leave it as it is."

"It is inappropriate to do this in the Colorado Plateau," he said. "It cannot go forward."

Carla Knoop, an environmental consultant hired by Earth Energy Resources, said the appropriate controls and safeguards have been implemented in the mining operation's design to catch any runoff in a containment system that includes berms and ditches. The operation, Knoop said, is 25 miles from Willow Creek and 38 miles from the Green River. The area has no "live" water in its vicinity — only an drainage system that has no water in it except during or immediately after a rainstorm, she said.

Tom Munson, a state hydrologist who has reviewed the proposed project, said the company also plans to implement a storm water-containment system, which is "one of the strong things we could ask for."

"We're not dealing with the Colorado River here," Munson said. "I am very certain very little if any runoff will occur."

Division officials said Earth Energy Resources has met the requirements of the permitting process, leading the agency to approve a permit last year, pending receipt of a reclamation surety of nearly $1.7 million.

Division director John Baza will review a transcript of the hearing and the documents associated with the permitting process. Baza indicated he will issue a final decision within 30 days on whether to grant the permit, seek modifications or remand it for additional review.

The environmental groups and the company then have the option to appeal his decision. That matter would be heard by the state Board of Oil, Gas and Mining.

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LR in the News 07/30/10

**Suit seeks to halt drilling, expansion of La Sal-area mine**

By Amy Joi O'Donoghue
Deseret News

Published: Friday, July 30, 2010 3:35 p.m. MDT MOAB — Three Moab-based conservation groups filed a federal lawsuit this week to halt uranium exploration and the construction of radon vent holes on U.S. Forest Service land in the Manti-La Sal National Forest in La Sal, San Juan County. The complaint filed with the U.S. District Court in Salt Lake City challenges a decision by the Moab/Monticello Ranger District to permit the drilling of 16 exploration drill holes and two radon vent holes as part of the expansion of the Pandora Uranium Mine.

The Pandora Mine is owned by Denison Mines Corp. Uranium ore from the mine is transported to Denison's uranium mill on White Mesa, a few miles south of Blanding in San Juan County.

The groups — Living Rivers, Uranium Watch and the Center for Water Advocacy — also filed a request for a preliminary injunction at the Pandora Mine to stay ground disturbance and construction of the exploration holes and radon vent holes until the case can be fully heard by the federal court.

The citizens' groups challenge the granting of a "categorical exclusion" for the projects and request that the Forest Service develop a full environmental analysis of the projects as part of the proposed expansion of the Pandora Mine.

In December 2009, Denison Mines submitted an amended "plan of operations" to the Forest Service, Bureau of Land Management and the state Division of Oil, Gas & Mining.

The suit asserts the Forest Service approved the new projects without consideration of the cumulative environmental impacts from the expansion of the Pandora Mine. Additionally, it asserts the Pandora Mine is operating under an outdated environmental analysis from 1981. Radon is vented to the surface from the underground mine operations so that the miners will not breathe in the radon gas and be exposed to the short-lived, highly radioactive particles that are produced when radon decays.

The proposed radon vents would add to the amount of radon gas and radioactive particulates released in the vicinity of the community of La Sal, on the south slope of the La Sal Mountains, according to a press release.

A Forest Service official declined comment on the suit, saying it had not been reviewed as of late Friday.

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Regional News 08/10/10

**California water bond delayed until 2012**

Link to Sacramento Bee article

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Regional News 08/12/10

**Lake Mead level plunges as 11-year drought lingers**

Green Wire article here

Arizona Republic article here

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World News 08/13/10

**NOAA: Second Warmest July and Warmest Year-to-Date Global Temperature on Record**

Link to NOAA press release here

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Regional News 08/14/10

**Unused Colorado River water proposed for Salton Sea**

Link to Desert Sun article here

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Regional News 08/14/10

**Mexico, US Talking About Colorado River Water**

AP article linked here

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Regional News 08/25/10

**Rio Grande Project Reservoirs Less Than 25% of Capacity – Labor Day Level Projected at 16.1%**

Press release from El Paso Extension of Texas A & M University

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LR in the News 08/30/10

**My Canyonlands: The Adventurous Life of Kent Frost**

... will be screening at three film festivals in the next month.

- The Wyoming Film Festival will show it at 6:45 on August 28 in Saratoga, Wyoming. Producer and film director Chris Simon of Sageland Media will be there.

- DocUtah, a new festival in Southern Utah, will have TWO screenings. The first screening is Monday, Sept 20, 2 pm in St. George.
  The second screening is in Kanab at 10:30 on Friday, Sept 24th at the Parry Lodge, Old Barn Playhouse.

- Associate Producer Susette Weisheit and Chris Simon will be attending the Pt. Townsend Film Festival in Washington on Sept 24-26th. There will be two screenings in Port Townsend, but they have not finalized their schedule so stay tuned!

*My Canyonlands: The Adventurous Life of Kent Frost* is a project of Living Rivers & Colorado Riverkeeper.

**Two clips are available on YouTube:**

Clip #1

Clip #2

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Regional News 09/05/10

**Toxic legacy of uranium haunts proposed Colorado mill**

Link to article by Denver Post

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Regional News 09/11/10

**Hoover Dam could stop generating electricity by 2013**

North County Times article by Eric Wolff linked here.

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OpEd 09/12/10

**Lake Powell trash brings call for non-motorized use**

Click here to read opinion piece by Andrew Gulliford

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OpEd 09/19/10

**Westwaterless: Blanding Utah should share water wealth**

Click here to read this opinion from the editorial board of the Salt Lake Tribune

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Regional News 09/20/10

**Windborne Dust on High Peaks Dampens Colorado River Runoff**

Click here to read press release from National Science Foundation
PDF here

Abstract here

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Regional News 09/27/10

**Water Use in Southwest Heads for a Day of Reckoning**

Click here for the story in the New York Times

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LR in the News 09/27/10

**Environmentalists appeal state approval of tar sands mine**

Click here to read story in Salt Lake Tribune

Click here to read OpEd in Salt Lake Tribune

Click here for story in Reuters on September 24.

Click here for story in Moab's Times-Independent on September 23.

Click here for story in Moab's Times-Independent on September 29.

For documents and other press stories, click here

and here.

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OpEd 09/30/10

**Mining for oil**

Salt Lake Tribune Editorial
The strip mining of tar sands deposits for oil in Utah's Book Cliffs will disturb the earth, degrade the environment and disrupt wildlife. It's an energy- and water-intensive way of producing petroleum that could jeopardize water quality and supplies. Plus, the process yields an old-school fossil fuel that produces climate-changing greenhouse gases in abundance. Simply put, tapping tar sands won't yield clean, renewable fuels; instead, it will compound our energy problems.

But common sense hasn't stopped Earth Energy Resources from attempting a demonstration project that could result in a flurry of destructive tar-sands mining on the environmentally sensitive Colorado Plateau. And it didn't stop the Utah School Institutional Trust Lands Administration from leasing the initial 62-acre site, plus nearly 6,000 additional acres in eastern Utah, to the Canadian company. And it didn't keep the Utah Division of Oil, Gas and Mining, which must assure that the mining plan complies with environmental and land-reclamation laws, from issuing a permit to proceed.

Moab-based Living Rivers, an environmental advocacy group, is protesting the mining permit. The Division's board will hear the appeal, a process that can take six months to a year to complete, and a fine-tooth-comb approach is in order.

Living Rivers officials argue that the project will contribute to climate change, and negatively impact water quality and supplies in the Colorado River basin. Due to the lack of storm-water drainage impoundments, the environmental group claims residual petroleum and chemicals from the mine could wash into Willow Creek.

Earth Energy counters that its patented citrus-based solvent is nontoxic, although independent verification by the public is not possible. The company, despite patent protections, considers its solvent to be proprietary, and only state regulators have access to the data.

Plus, the firm counters that it will require just 1.5 barrels of water to produce a barrel of oil. Still, that's a lot of water in the second-driest state, especially if the industry gets its toe in the door and tar-sands mining becomes commonplace.

Even if Earth Energy survives the appeal, the project is not a done deal. The company must also obtain approval from Grand County to proceed, and the county should carefully consider the impact of tar-sands mining on Grand's lucrative tourism and recreation industries.

Also, Earth Energy needs $35 million to launch the mine, and investors are rightfully skittish. That could be the biggest obstacle to the project, and the Book Cliffs' saving grace, since government seems reluctant to stand in the way despite the threat to the environment and the economy.

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Regional News 10/04/10

**Ocean conditions likely to reduce Colorado River flows this winter**

Click here to read story by UCLA

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Regional News 10/19/10

**Lake Mead water level at new historic low**

Click here to read article in the Arizona Republic by Shaun McKinnon

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Regional News 10/20/10

**Water Scarcity a Bond Risk, Study Warns**

Click here to read this New York Times article

Click here to read the Ceres Report.

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Regional News 10/20/10

**UA to head up US-funded center to study climate change**

Click here to read this story from the Arizona Daily Star.

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Regional News 10/21/10

**Ozone raises its ugly head in rural eastern Utah**

Click here to read story by Judy Fahys of Salt Lake Tribune

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Regional News 10/31/10

**Colorado Water Official Blasts Entrepreneur's Wyoming Pipeline Proposal**

Click here to read the story from Southwest Wyoming Tribune.

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OpEd 11/05/10

**Hoover Dam: marvel turned folly**

OpEd in Salt Lake Tribune by John Weisheit

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Regional News 11/07/10

**Drying Lake Mead Worries Water Users In Colorado**

Click here to read story in Grand Junction Sentinel

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Regional News 11/12/10

**Will The Central Arizona Project Be An Empty Ditch?**

Click here to read this story from the Tucson Citizen  Regional News 11/15/10

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Regional News 11/15/2010

**Binational Desalination Plans Heat Up**

Click here to read story in Online San Diego

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Regional News 11/18/10

**CAP Describes Costly Future Water Options**

Click here to read the story from the Arizona Daily Star

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Regional News 11/29/10

**Decade of Drought Leaves Two Lakes, Powell And Mead, In Same Boat**

Click here to read this story from the Las Vegas Review Journal

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Regional News 12/01/10

**GAO: More research needed on oil shale, water**

Click here to read the Associated Press story

Click here for GAO Report

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Regional News 12/07/10

**Western Governors Debate Water Laws**

Click here to read story in the Standard Examiner

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LR in the News 12/08/10

**Oil Sands Project In Utah Draws Fire For Water Use**

Click here for this story in CNN Money News

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Regional News 12/14/10

**Scientists See Southwest As First Major US Climate Change Victim**

Click here to read this story from the New York Times

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Regional News 12/20/10

**Salazar & Elvira Announce Water Agreement for Support Response to Mexicali Valley Earthquake**

Click here to read press release from Department of Interior

Click here to read "Desalination Promotion Part of Colorado River Agreement."

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Regional News 12/26/10

**Arizona Drought Prompts Colorado River Water Proposal**

Click here to read this article from the Arizona Republic

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LR in the News 12/30/10

**Is Tar Sands Mining Viable In Utah?**

Click here to read story by Bobby Magill in New West Magazine

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